SAMSUNG

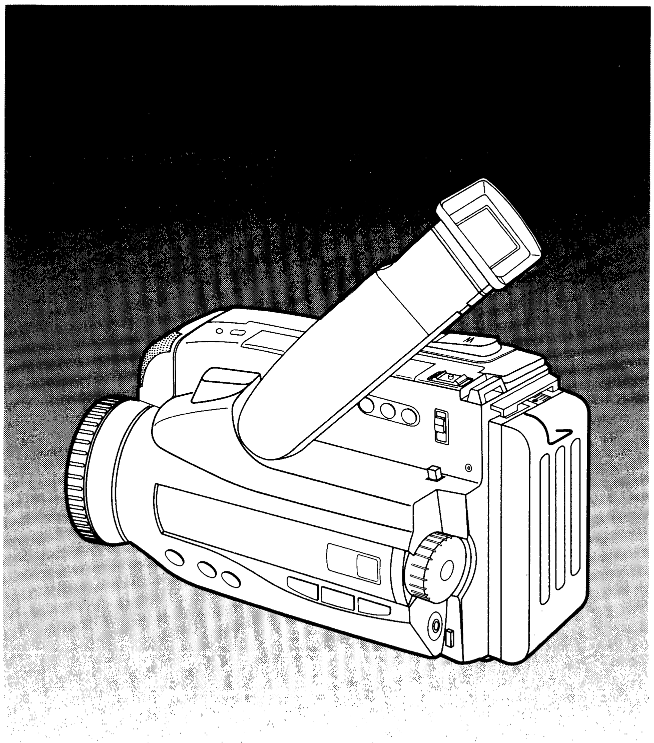
8mm CAMCORDER

VP-H65/VP-H66/VP-H68
SCH985/SCH996

Hi 8

TRAINING Manual

8mm CAMCORDER



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1. Camera Block

1-1 CCD Image Sensor and Driving Circuit

1-1-1 Vertical Overflow Drain (VOFD)

The CCD image sensor is shown in Fig.1. Since OFD (SUB) is designed in the vertical direction of CCD CHIP as shown in the Fig.1. it is called vertical overflow drain(OFD) structure image.
The potential corresponding to dashed lines of Fig.1 (a) is shown in (b). In CCD, the potential barrier is determined by external DC bias applied to OFD. This determines amount of saturated(denoted by Qs) of image sensor; For example, when potential barrier is high (i.e, bias applied to OFD is low), Qs increases, and when potential barrier is low (i.e, bias applied to OFD is high) Qs decreases.

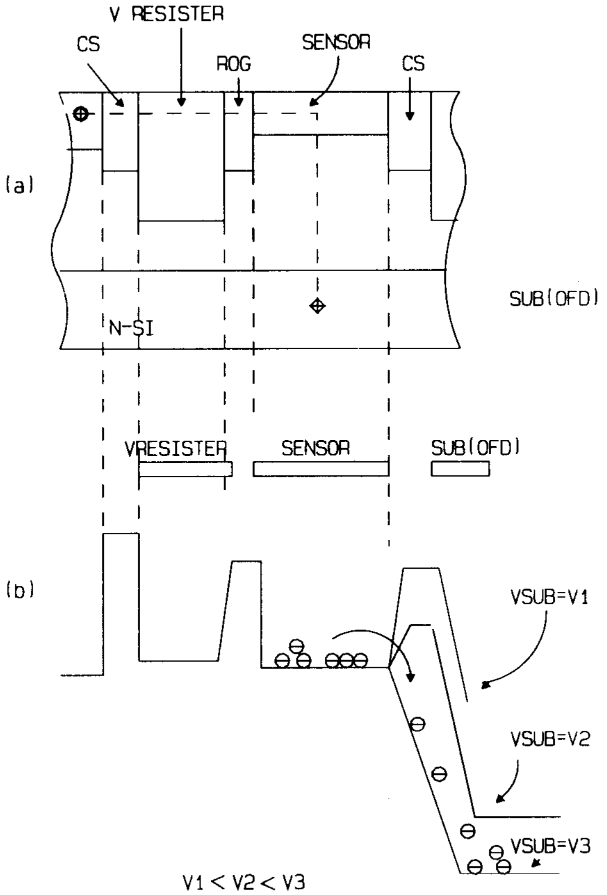


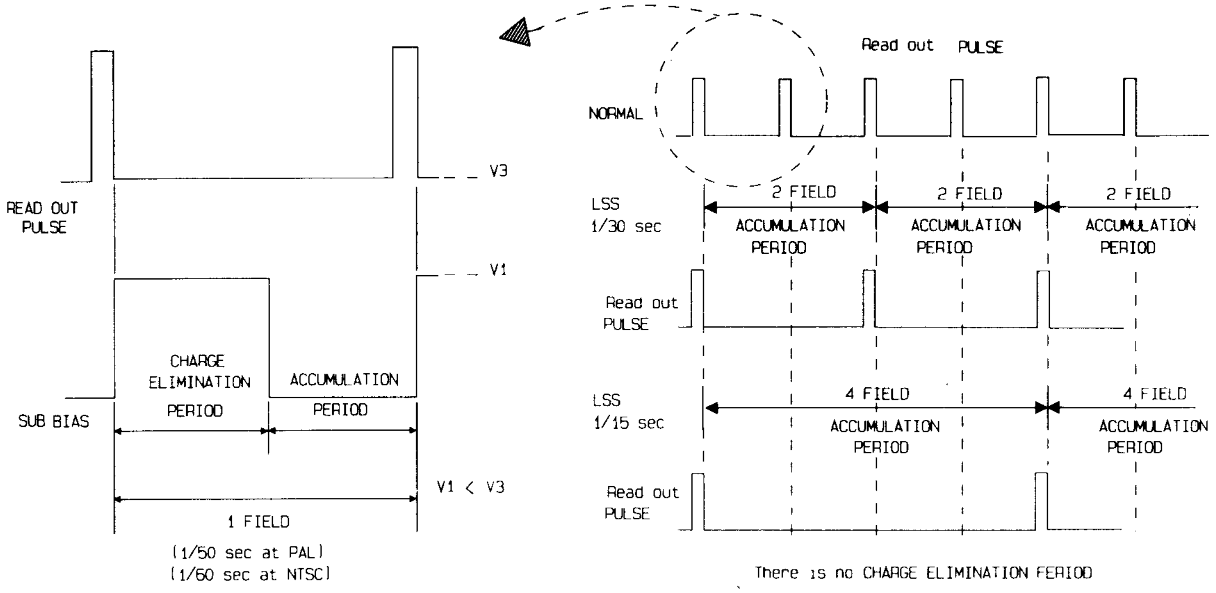
Fig.1 Structure of CCD and its potential Barrier

1-1-2 Principles of Electronic Shutter

Electronic shutter is realized by control of Qs. Charges are accumulated during accumulation period corresponding to shutter speed (ordinarily, 1/60 <1/50 >sec) and are eliminated at other times. Accumulation and elimination of charge are controllled by voltage applied to SUB of CCD. Hence, if sub voltage control signal is synchronized to CCD read out pulse as shown in Fig.2, the electronic shutter is operates.

1 Low Shutter Speed (LSS)

LSS is realized by charge accumulation without elimination period, because PWM control signal(PIN 50 of ICA01; MICOM) is always'HIGH. Charge are accumlated during 2FIELD(1/30 sec) or 4FIELD (1/15 sec). Finally, READ - OUT the accumlated chargh during the next field.


READ OUT PULSE
V3
V1
CHARGE ELIMINATION PERIOD
ACCUMULATION PERIOD
SUB BIAS
V1 < V3
1 FIELD
(1/50 sec at PAL)
(1/60 sec at NTSC)
Read out PULSE
NORMAL
LSS 1/30 sec
2 FIELD
ACCUMULATION PERIOD
2 FIELD
ACCUMULATION PERIOD
2 FIELD
ACCUMULATION PERIOD
Read out PULSE
LSS 1/15 sec
4 FIELD
ACCUMULATION PERIOD
4 FIELD
ACCUMULATION PERIOD
Read out PULSE

There is no CHARGE ELIMINATION PERIOD

Fig.2 Timing Diagram of Electronic shutter

1-1-3 Control of Real Electronic Shutter

To drive the variable speed electronic shutter, charge elimination pulse is superimposed on DC bias of SUB as shown in Fig.3. Charge-elimination pulse is generated during horizontal blanking time (every 1H). Shutter speed can be varied between 1/60 <1/50 > to 1/15750 <1/15625 >sec with step size of 1/15750 <1/15625 >sec by this control method, but variable speeds are possible at each mode for this SET.
SUB voltage control circuit for electronic shutter shown in Fig.3. Electronic shutter pulse is generated from pin 28 of IC POI and varied by DP03 under control of PWM control signal (ICA01 pin 50). The electronic shutter pulse (5Vp-p) is converted to 24Vp-p by ICD01(CXD1250). This 24Vp-p pulse is superimposed on SUB to control charge accumulation time.

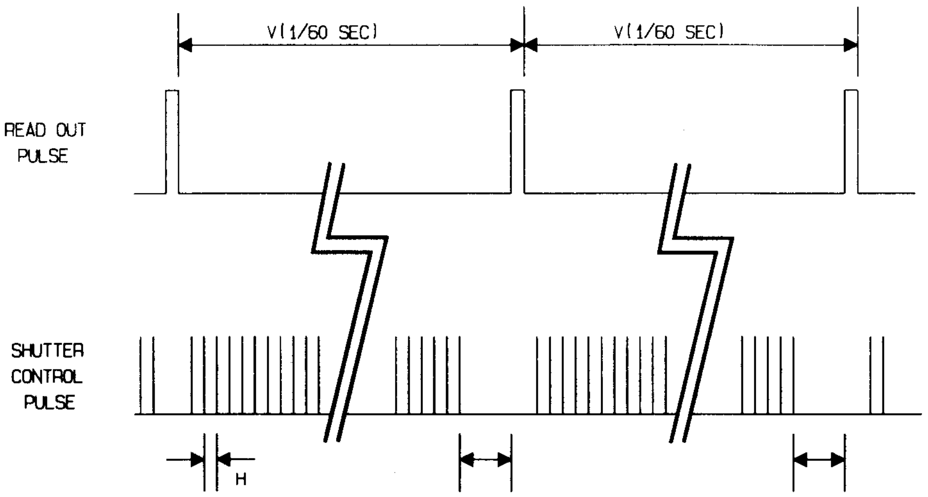

V(1/60 SEC)
V(1/60 SEC)
READ OUT PULSE
SHUTTER CONTROL PULSE
H

Fig. 3 Control of Real Electronic Shutter

1-2 Vertical Register Driving Circuit

XV1 signal of pin 29 of ICP01 (KS5301) is applied to pin 4 ICD01. XSG1 signal of pin 26 of ICP06 (KS7301) is added to XV signal. Then, this added signal is inverted and output from pin 16. XV2 signal of pin 30 of ICP01 is inverted and is output at pin 17 of ICD01(vertical driving IC) to pin 5 of IMAGE SENSOR (CCD). XV4 signal of pin 32 of ICP01 is inver and output at pin 13 of ICD01 XV3 signal of pin 31 of ICP01 is applied to pin 6 of ICD01 . XSG2 signal of pin 27 of ICP01 is added to XV3 signal and this composite signal is inverted and output from pin 14 of ICD01 Therefore, V4,V3,V2 are V1 pulse and are input to pins 3,4,5,6 of ICP01(IMAGE SENSOR), respectively.(Refer to Fig.4).

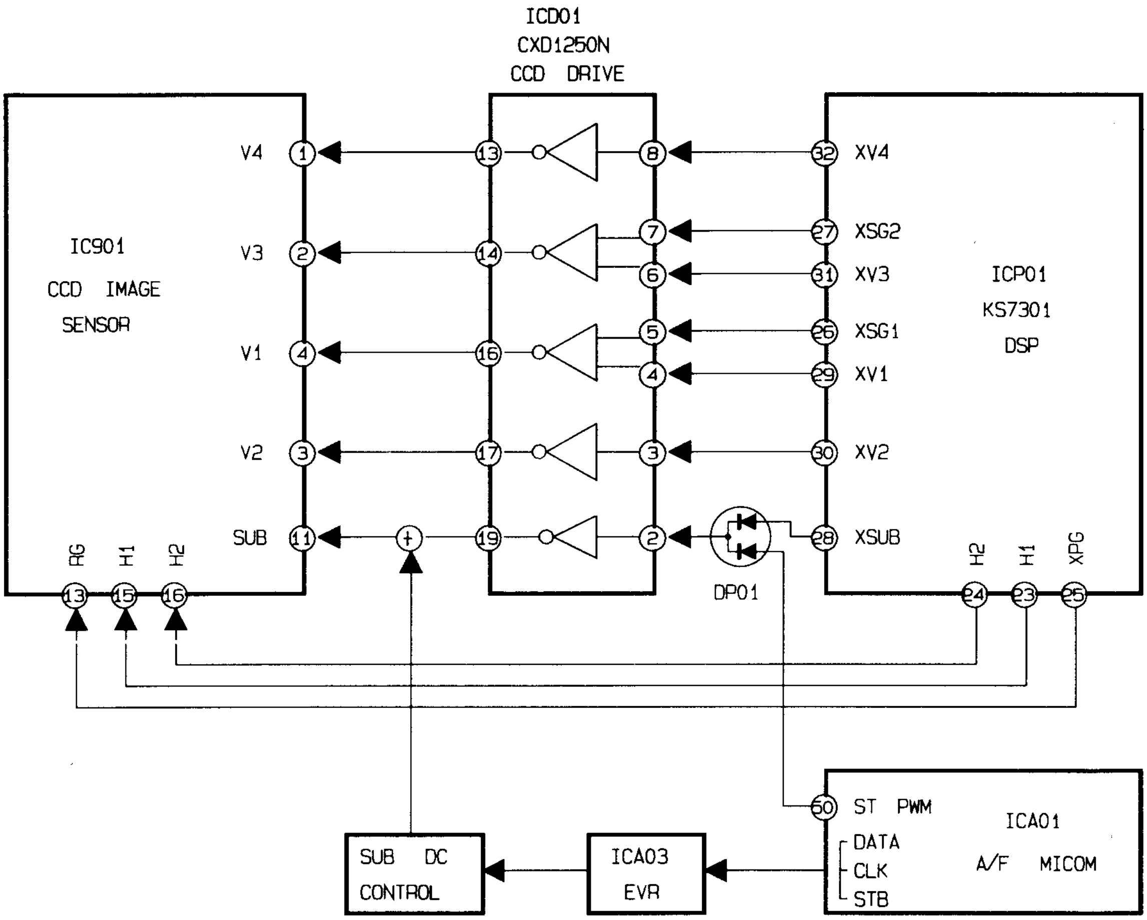

ICD01
CXD1250N
CCD DRIVE
IC901
CCD IMAGE
SENSOR
V4
V3
V1
V2
SUB
RG
H1
H2
1
2
4
3
11
13
15
16
13
14
16
17
19
8
7
6
5
4
3
2
32
27
31
26
29
30
28
XV4
XSG2
XV3
XSG1
XV1
XV2
XSUB
ICP01
KS7301
DSP
H2
H1
XPG
24
23
25
DP01
50
ST PWM
DATA
CLK
STB
ICA01
A/F MICOM
SUB DC
CONTROL
ICA03
EVR

Fig. 4 Vertical Register Driving Circuit

1-3 CDS/AGC/ γ and Marginal Circuit

1-3-1 CDS

The signal from CCD is applied to pins 3,4 of KA7302 (ICD02). The internal Block diagram is as follows.

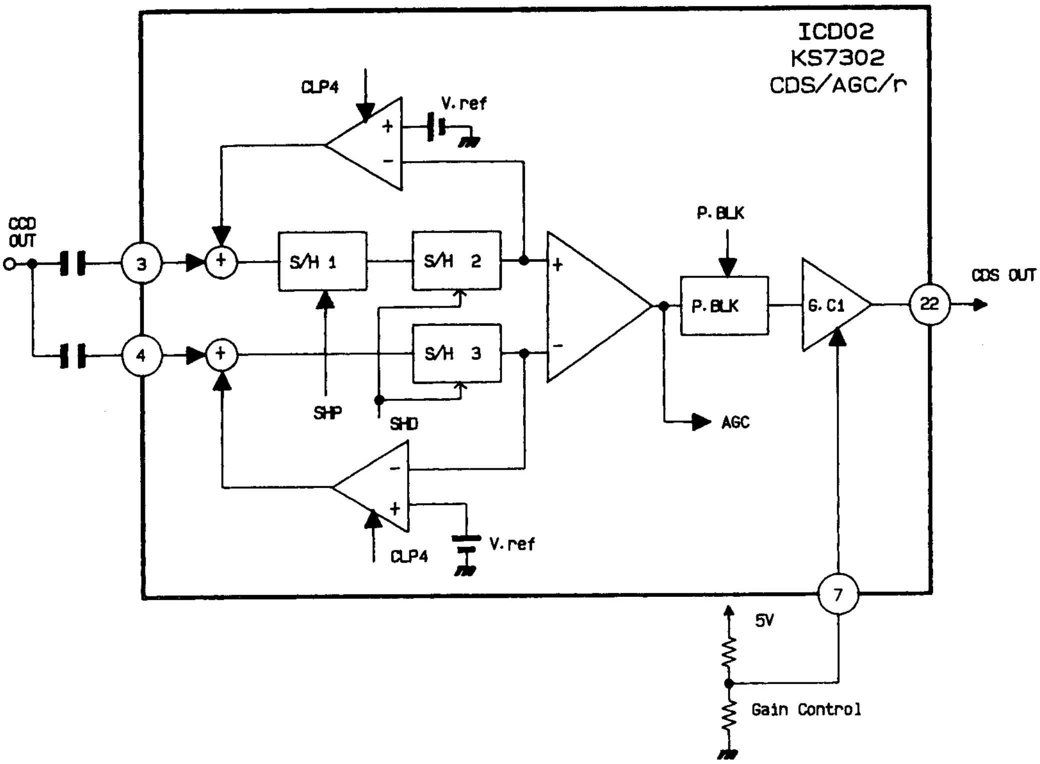

ICD02
KS7302
CDS/AGC/r
CLP4
V.ref
CCD OUT
3
4
S/H 1
S/H 2
S/H 3
SHP
SHD
P.BLK
P.BLK
G.C1
22
CDS OUT
AGC
CLP4
V.ref
7
5V
Gain Control

Fig.5

CDS block attenuates low frequency-noise from CCD by using two SHP and two SHD, which execute double-sampling.

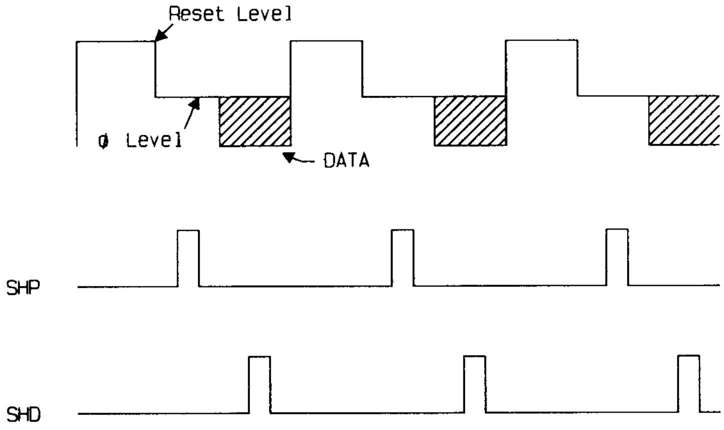

Reset Level
φ Level
DATA
SHP
SHD

Fig.6

The output of S/H2 and S/H3 as the output of CDS is applied to differential AMP and the DC level of that outputs compared with V.ref voltage and fedback to input block to compensate DC level during active period of CLAMP pulse of CLP4. The output of differential AMP is applied to AGC. Also it is passed through P.BLK and is output from pin 22 after amplifying in G.C.A (Gain Control Amp) and muting during Blank period.

1-3-2 AGC

AGC Consists of AMPs for auto control followed input level.

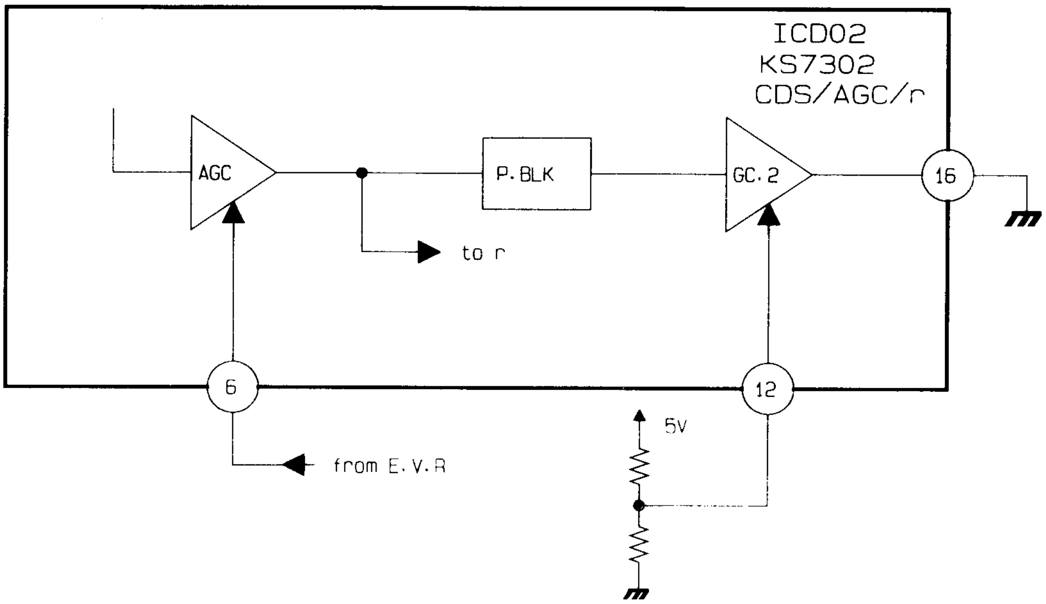


Fig.7

It is outputed to BLOCK after compensating Gain of AGC AMP followed DC voltage level of pin 6. And it is passed through P.BLK and is output to pin 16 is connected GND, final GC2. Also, when pin 16 is connected GND, final GC2 AMP is activated POWER SAVE mode.

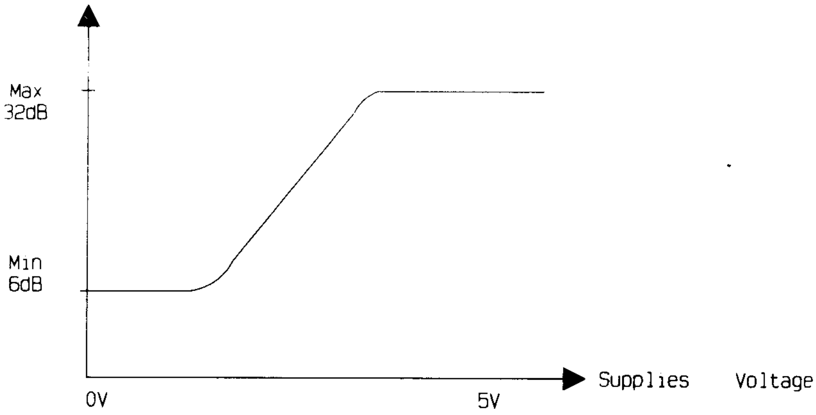


Fig. 8

AGC is activated under Gain control by Negative feediback, is detected by MICOM and is controlled dy EVR.

1-3-3 γ

γ Block is divided to Y system and S1-S2 system.

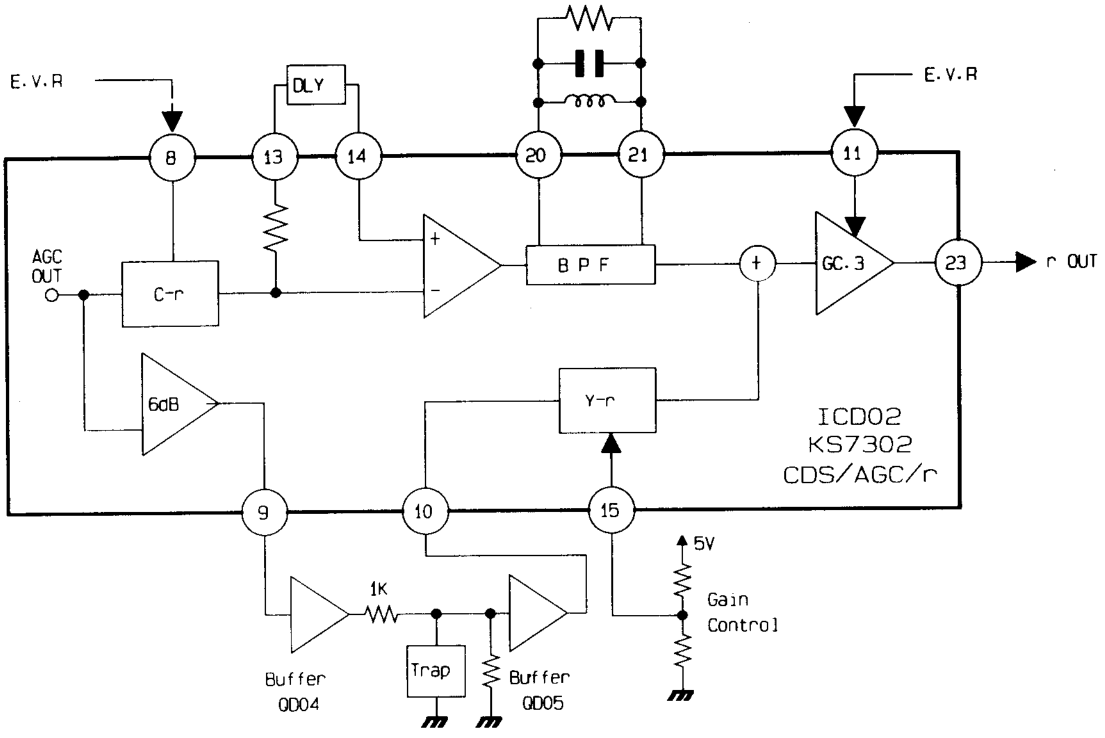

E.V.R
DLY
E.V.R
8
13
14
20
21
11
AGC OUT
C-r
+
-
B P F
+
GC.3
23
r OUT
6dB
Y-r
ICD02
KS7302
CDS/AGC/r
9
10
15
5V
1K
Gain Control
Buffer QD04
Trap
Buffer QD05

Fig. 9

1 S1-S2 system
The output of AGC is directly applied to C- γ block is controlled by DC voltage of pin 8 from EVR control. At this time, the input and output waveform is total level including S1 and S2 level is divided by 1 pixel delay of pin 13 and 14. Divided S1 and 14. Divided S1 and S2 signal is sent to mix block after deliminating DC coponent through BPF.

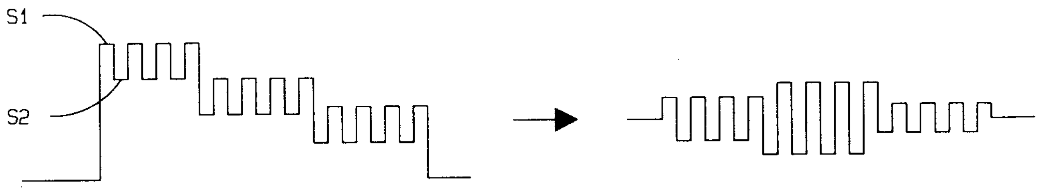


Fig. 10

2 Y system
The other line of AGC output is output from pin 9 after passing 6 dB AMP. This output signal is passed through Buffer (QD04) and Trap for eliminating 7.16MHz copponent, is attenuated - 60dB by input and output impedance and is inputed again pin 10 through Buffer(QD05). This signal is, taken γ - compensation in Y - γ block and is varied by DC voltage of pin 15. It is mixed with γ system of S1-S2 in mix block to be an united signal and is outputed from pin 23 after beingamplified Gain Control 3.

1-3-4 IRIS and hall

The amount of light, through the lens is controled by IRIS.
IRIS is more open, then the screen is more bright, at this time HALL output of hall device is increased at the same condition of IRIS, hallout voltage is increased by increasing HALLin voltage. how much iris is open is determined by iris DRIVE voltage apply to IRIS motor. Motor has the inertia, keep going moving into the same direction , so it is need to blocking this one. it is a damping.
hallout is input to micom (ICA01 47PIN), to give some information about IRIS. HALLOUT , passed AMP1, is differential calulated(ie,taken changed hallout voltage only) and ampliferd, negative feedback to AMP4, final it is activated damper. CDS signal for IRIS control output of KA7302 is output from pin 22 and is clamped by QP08. it is necessay to compensate variation of dc level due to variation of temperture. the clamped signal is taken WINDOW to eliminate bright obiect on upper side of screen. and then this signal is integal calculated by R,C, and input to AMP4.
<VN-H68,SCH996 ONLY>
when LSS is work, there is no CDSOUT signal in some field, so CDSOUT signal is not used for iris control any more . therefore the other of IRIS control is one by micom. micom is control AUTO IRIS by A/D data divide by 64parts (8x8 divide of screen) WINDOW is realied, do not taken the data of upper side of screen. micom is control tow ports (lower and upper valug) of EVR (ICA03), for AUTO IRIS control, and then output voltag is input AMP3. HALLOUT is negative feedback to AMP4 for more rapid IRIS control.

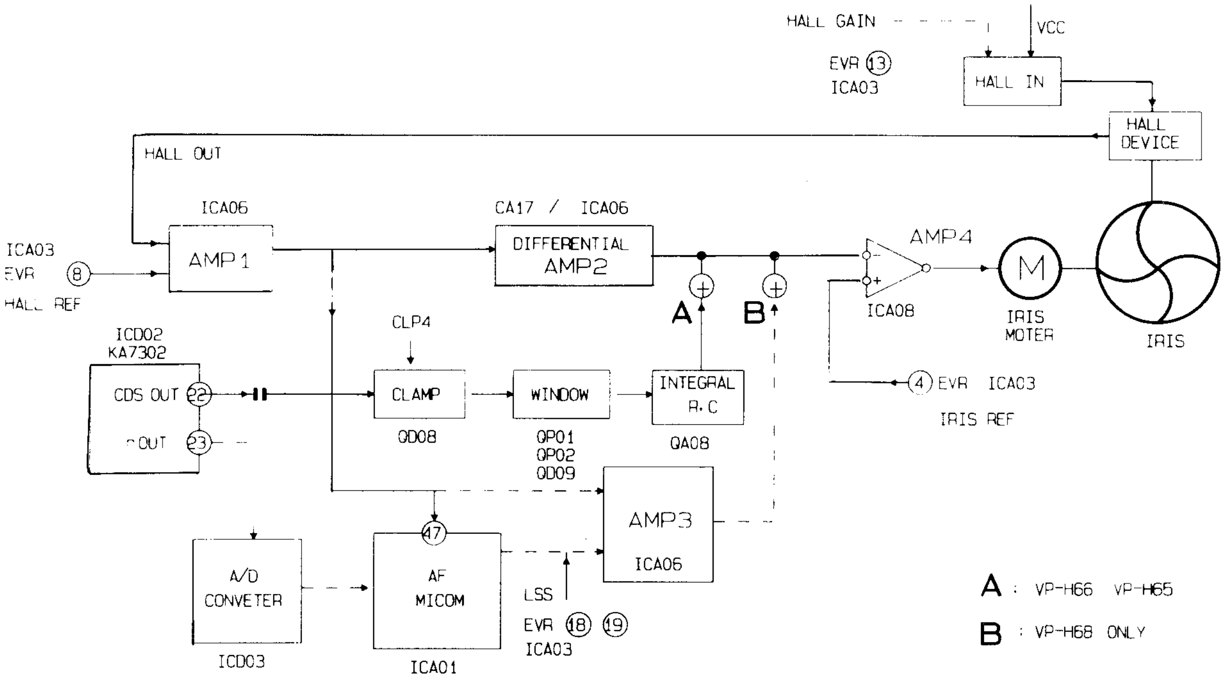

HALL GAIN
EVR ⑬
ICA03
VCC
HALL IN
HALL DEVICE
HALL OUT
ICA06
AMP 1
ICA03
EVR ⑧
HALL REF
CA17 / ICA06
DIFFERENTIAL AMP2
AMP4
ICA08
M
IRIS MOTER
IRIS
A
B
ICD02
KA7302
CDS OUT ㉒
OUT ㉓
CLP4
CLAMP
QD08
WINDOW
QP01
QP02
QD09
INTEGRAL R. C
QA08
④ EVR ICA03
IRIS REF
AMP3
ICA06
A/D CONVETER
ICD03
㊼
AF MICOM
ICA01
LSS
EVR ⑱ ⑲
ICA03
A : VP-H66 VP-H65
B : VP-H68 ONLY

Fig. 11

1-3-5 A/D Input

The signal mixed with S1-S2 and Y in KA7302 is outputed from pin 23. This signal is passed through CLAMP circuit so reference bottom voltage of A/D converter is to be BLACK level.
At this time, reference level of A/D converter is typically 0.6V.

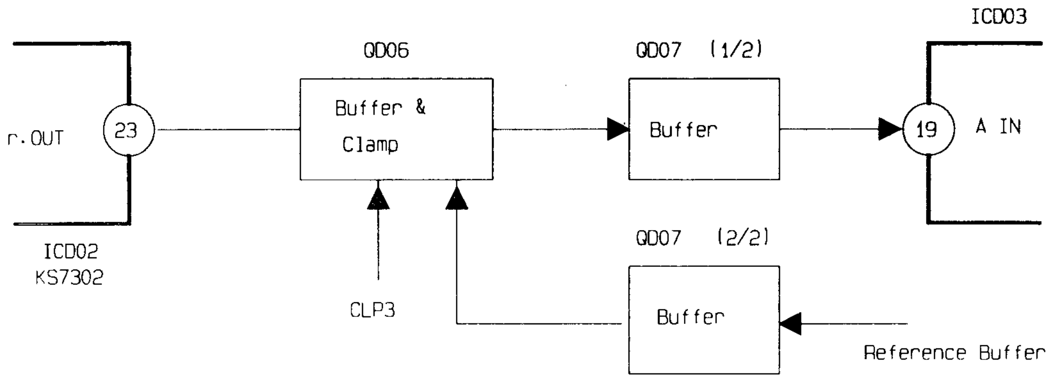

ICD03
QD06
QD07 (1/2)
r.OUT
23
Buffer &
Clamp
Buffer
19
A IN
QD07 (2/2)
ICD02
KS7302
CLP3
Buffer
Reference Buffer

Fig. 12

1-4 DSP and marginal circuit

1-4-1 Y systerm

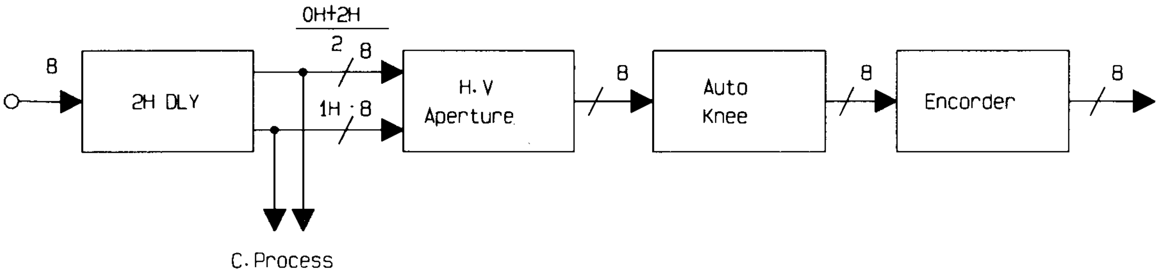

0H+2H
2
8
8
1H
8
2H DLY
H.V
Aperture
8
Auto
Knee
8
Encorder
8
C.Process

Fig. 13

8 bit data (pin 143 - pin 150) inputed to KS7301 generate (0H+2H)/2 and 1H signal using by 2H DLY BLOCK consisted of Line Memory.

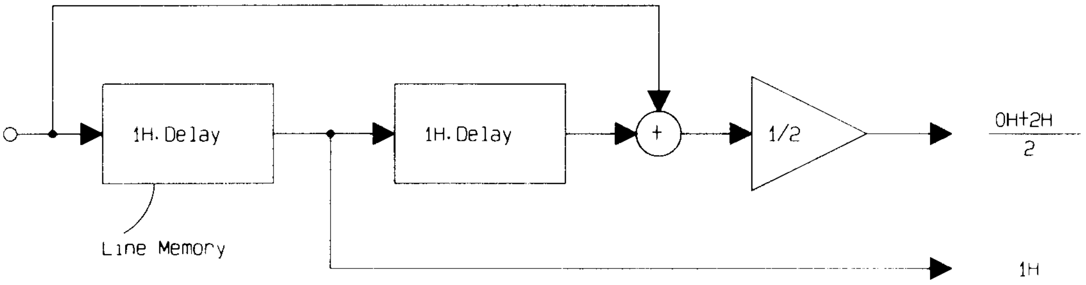

1H.Delay
1H.Delay
+
1/2
0H+2H
2
Line Memory
1H

Fig. 14

This signal is applied to H.V aperture BLOCK and vertical Aperture is taken as follows, Vaperture = 1H - (0H + 2H)/2 Horezontal aperture is used same concept but is taken by pixel delay instead of 1H delay. The aperture signal from this block after being mixed is controlled gain by Gain control and is outputed. However, the signal generated by H aperture is used for control signal for chroma supperession of Edge part.

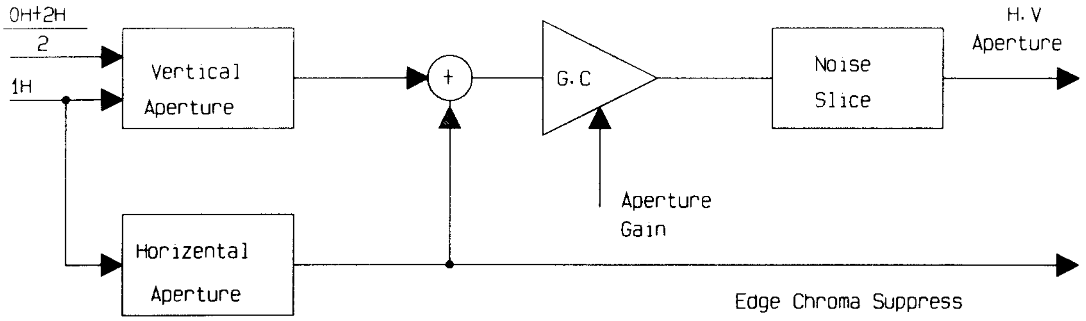

0H+2H
2
1H
Vertical
Aperture
+
G.C
Noise
Slice
H.V
Aperture
Aperture
Gain
Horizental
Aperture
Edge Chroma Suppress

Fig. 15

H. V aperture contorlled gain by Gain control eliminate constant levael of noise using by Noise silce. Auto knee BLOCK has Gain characteristic as follows to take dynamic range of high luminance luminance part.

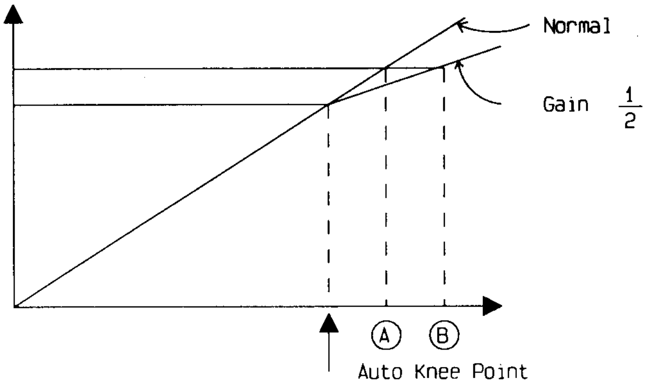


Fig. 16

When normal gain curve applies , input under point A is allowed to take same output. But when varied gain curve st Auto point applies, input under point B is allowed. This is an affect to enlarge dynamic range of high luminance part. The signal outputed from Auto Knee is passed throgh Encoder BLOCK which has Fade, Blank, Negative/Positive and Digital Effect Proces and is outputed.

1-4-2 C process

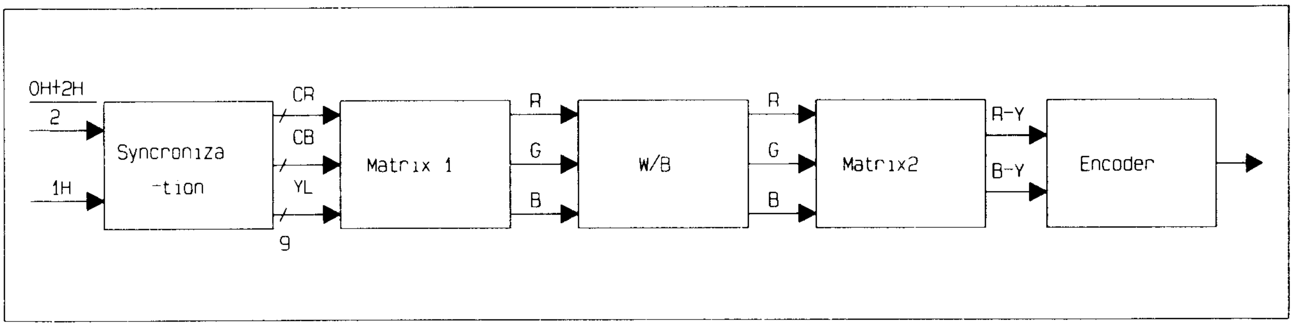


Fig. 17

To extract chroma signal from the 1H signal and the(0H = 2H)/2 signal from the 2H delay BLOCK, chroma difference signal synchronization is occurred.
It is an essential process to make a chroma siganl from the CCD (Charge Coupled Device) adopted a complementary color filter method.
Simultaneously the synchronization by every 1H line and CR, CB signals sxtraction by S1 - S2 are occurred.
That is,
If S2 - S2 is occurred, CR = 2R - G and CB = -2B + G are repeated every 1H line.
After that CR, CB are simultaneously remained every 1H line by synchrinizing thgnals. The epuation of YL is follows.
YL = 9 (S1 + S2)/2
CR, CB YL signal input to mATRIX 1 Block for producing R.G.B.
At this time 9 bits processing is occurred by CR, CB. Because - (Minus) Signal bit by subtract circuit is needed to that processing. Matrix 1 Block is composed of adder and multiplier to produce R.G.B. Equations of producing R.G.B arre as folloes.

$$R = CT + aYL$$
$$B = - CB + b < YL - (CL - CB) >$$
$$C = YL - (CL - CB)$$
$$* CR = 2R - G, CB = - 2B + G$$
$$YL = 2R + 3B + 3G$$

In here, adjustable variables a,b are coefficients of multiplier and fixed by MICOM. R.G.B signal from the Matri 1 are gain controlled by W/B Block. W/B can be corrected by R. B Gain control.

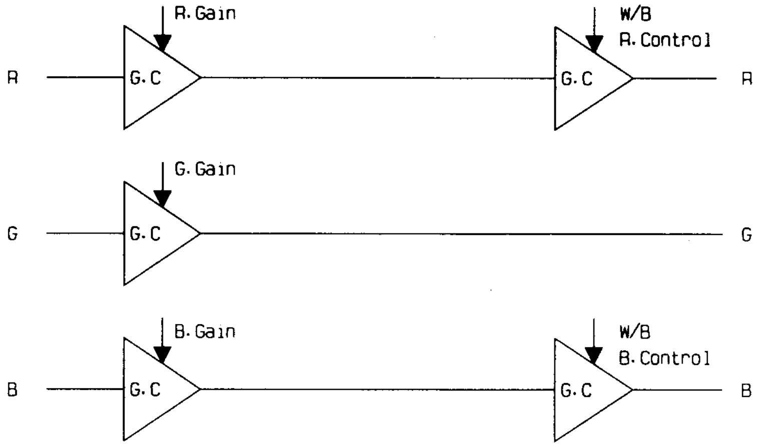

R.Gain
W/B
R.Control
R
G.C
G.C
R
G.Gain
G
G.C
G
B.Gain
W/B
B.Control
B
G.C
G.C
B

Fig. 18

So R.G.B total gain control is possible by gain of R.G.B respectively and also indivisual level correction is prossible. R.B are corrected a separate way by W/B R control and W/B B one. Asa' result, the white Balance can be corrected dy it. Whit Balance correc corrected R.G.B signals input to Matrix 2Block. To produce R - Y and B - Y, first of all it makes R - G and B - G, Equations of R - Y and B - Y are as follows.

$$R - Y = R - (0.3R + 0.11B + 0.59G)$$
$$= 0.7R - 0.11B - 0.59G$$
$$B - Y = B - (0.3R + 0.11 + 0.59G)$$
$$= - 0.3R + 0.89B - 0.59G$$

If makes the chroma difference signal using the R - G and B - G.

$$R - Y = a1 (R - G) + b1 (B - G)$$
$$B - Y = a2 (R - G) + b2 (B - G)$$

In here, variables a1, b1, a2, b2 are coefficients of Multiplier and fixed by MICOM. Produced by these methods, R - Y and B - Y input to the Encorder Block and pass through the Fade, Negative/ Positive, Blank ones just like as Y process. Affer that this Block produces color modulation and Burst signal in hormony with NTSC or PAL system.

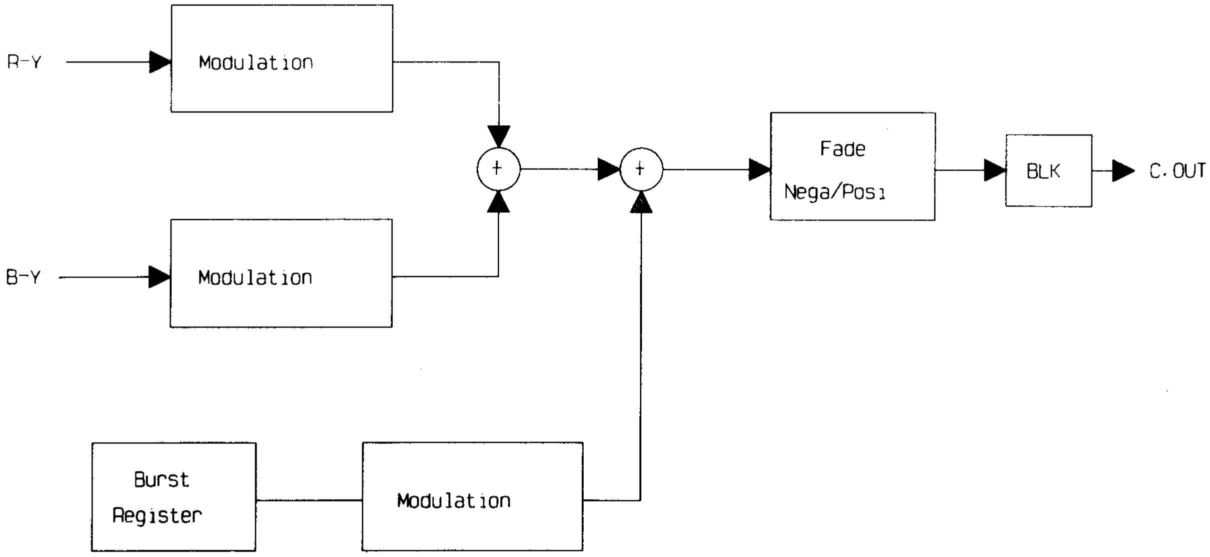

R-Y
Modulation
B-Y
Modulation
+
+
Fade
Nega/Posi
BLK
C.OUT
Burst
Register
Modulation

Fig. 19

1-4-3 TG and SSG process

TG Block generates timing pulse for the CCD driving and the clock of internal DSP Block. It makes Synchronized pulse by reference clock pulse and VD, HD from SSG.

1-4-4 MICOM interface

The interface between DSP and Micom is 8 bit parallel one. Lines of address and data are public ones. Control signals composed of chip selector, address strobe , read Enable and write enable.

1-4-5 Output circuit

D/A converter (ICP02) is originally for 3 channels. But In here uese 2 channels for Y and c. #22 ~ #30 is for Y chaneel and Analog converted Y outputed Y output to #7. #31~ #39 is for C channel and Analog converted C outputs #5. Y/C signal from D/A converter and C.SYNC from DSP are output to the VCR section. The detail Block diagram of output circuit is follows. D/A convented Y signal from ICPO2 passes through the Bffer of QP07 and LPF of FP01 and again passes through the Buffer of QP08. C.sync from ICPO1 passes through the Buffer of QP09 Thes Y and C.Sync singnals are mixed in the Mixer Block. Afer that passes through the AMP of QP10 and Buffer of QP11 In th end, it outputs to VCR section. Chroma signal from ICP02 passes through the BPF of 3,58MHZ and outputs to the VCR section.

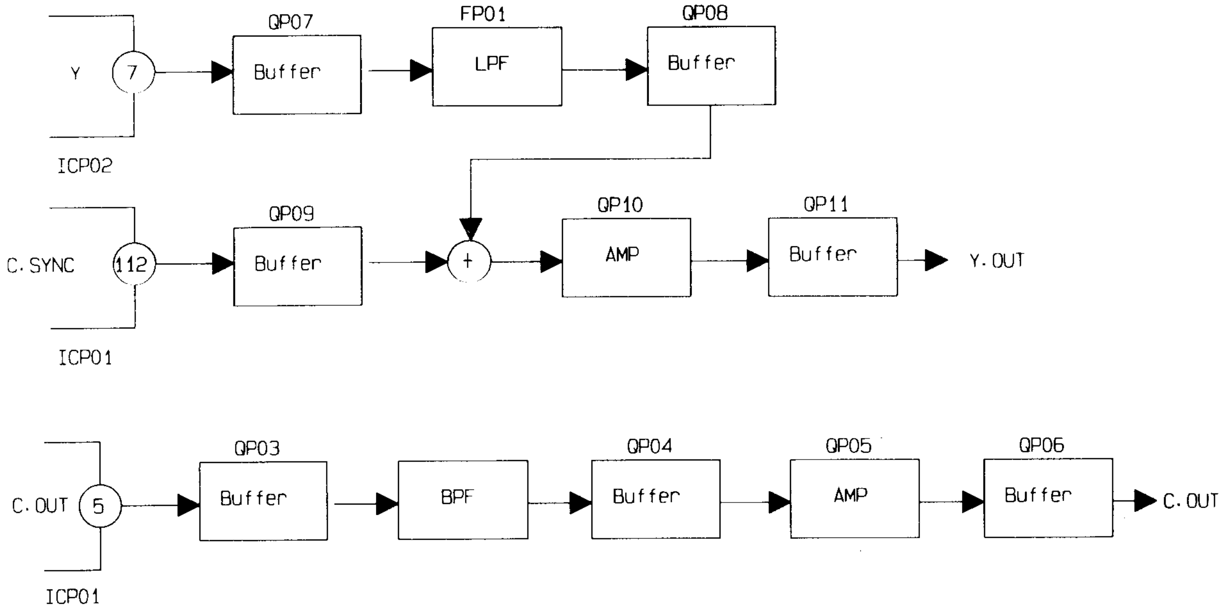

QP07
FP01
QP08
Y
7
Buffer
LPF
Buffer
ICP02
QP09
QP10
QP11
C.SYNC
112
Buffer
+
AMP
Buffer
Y.OUT
ICP01
QP03
QP04
QP05
QP06
C.OUT
5
Buffer
BPF
Buffer
AMP
Buffer
C.OUT
ICP01

Fig 20

1-4-6 EEPROM and EVR

At the time of Adjustment, MICOM stroes necessary variables in the EEPROM(ICA03) continuously.

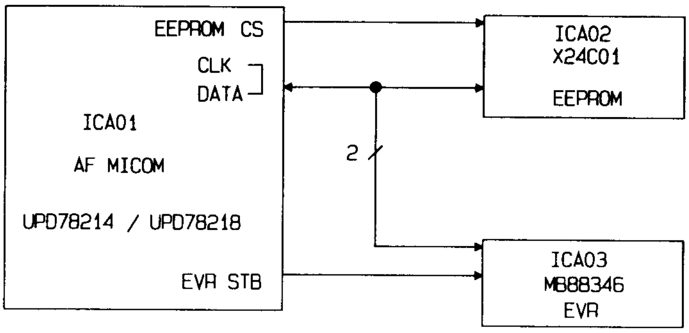


Fig. 21

At the power ON mode, MICOM reads variables and controls DSP and EVR. EVR is, in other words, D/A conventer, It recives digital data from MICOM and gives DC control voltage to analog Block.

1-4-7 CAMREA SIGNAL PROCESS

The signal from CCD is applied to pin 3.4 of KA7302 (ICD02). It is psaaed through CDS/AGC / r BLOCK of internal IC, and outputed to pin ICD03 (A/D CONVERTER) In here the analog signal is converted to a 8 bit digital data (A/D DATA). This A/D DATA is used Camera signal process in two ways. The one is inputed to pin 143 - 150 of DSP(ICP01:KS7301),and 64(8x 8 areas) divided, and used for AUTO EXPOSE/AUTO FOCUS/AUTO WHITE BALANCE control by MICOM(ICA01). In DSP , The 8bit A/D DATA is passed through Y and CHROMA process, and Y DATA (8bit) is output to pin 22-30 of D/A CONVERTER (ICP02;KDA0408), CHROMA DATA (8bit whit burst signal) to PIN 31-39 OF D/A CONVERTER. Y signal , convered to anavered to analog and outputed from PIN 5 of D/A, is mixed SYNC(PIN 112 of DSP; ICP01), and then go to VTR SECTION CHROMA signal, outputed from pin 7 of D/A is passed through BPF, an then go to VTR SECTION.

< VP-H68 , SCH996 ONLY>

The other one is used for DIGITAL EFFECT.
It is inputed to pin 1-8 of ICE02(KS7304; DIGITAL EFFECT LSI), and writed to FIELD MEMORY. FIELD MEMORY is consist of two 1M X 4bit DRAM MEMORY (have 4 data I/O lines). KA7304 takes information about DIGITAL EFFECT by SDATA line PIN 87(FROM PIN 133 OF DSP). and KS7304 reconstructs the DIGITAL EFFECT DATA by control the FIELD MEMORY(READ/WRITE, ROW/COLUMN ADDRESS CONTROL). and it is outputed to pin 74 - 82 , and inputed to pin 152 - 160 of DSP (ICP01;KS7301).
EIS(ELECTRONIC IMAGE STABILIZATION) - The Compensation of Hand - Tremblig.
GYRO SENSOR (ICE07,ICE12) output reference voltage (Vref = about DC 2.3V) from PIN 2, and SENSOR-OUT from PIN 4 on the Vref
(about 0.2V+/- Vref). SENSOR-OUT is passed through LPF (0.05-15Hz), and DC cut dy non-polar condensor(CE17,CE21), and then spplied to OPAMP(ICE04). In Here, SENSOR-OUT by Hand -Treblig is ampliferd about 100 times (0V - 5Vp-p). This output from PIN 7,8 fo ICE04, inputed to pin 11, 12 of EIS MICOM (ICE01) EIS MICOM calculates the MOVING DATA (moving direction and value) of horizental direction and vertial direction. The MOVING DATA is outputed to PIN 62 - 70 of ICE02 (KS730). And KS7304 compensates the Hand - Trembling by FIELD MEMORY CONTROL.

1-4-8 EVF(B/W)

1 Video AMP Circuit
Signal (pin9) from video amp of ICB01 is amplified QBO1 and is applied to G1 grid of CRT which is used to control thermal electrol thermal electrons emitted from cathod of CRT. That consitute periodical brightness and darkness.

2 Deflection Circuit
SYNC components are extracted from video signal received from pin 9 of ICB01. Horizontal SYNC of pin 14 amplified and vertical sync of pin 3.5 are sent to deflection yoke to deflect thermal electrons controlled by G1 grid to each position to constitute E.V.F screen

3 HiGH Voltage Circuit
B+ and amplified H.DRIVE output by FTB01 are sent to CRT ANODE to accelerate deflected thermal electrons. Accelerated election collides with CRT flourescent plate, which henerates light visual image is obtained.

4 H.SYNC separation
H.sync is separated from composite video signal In ICBO1 and outputs to VCR section. In the VCR section it is used for displaying OSD.

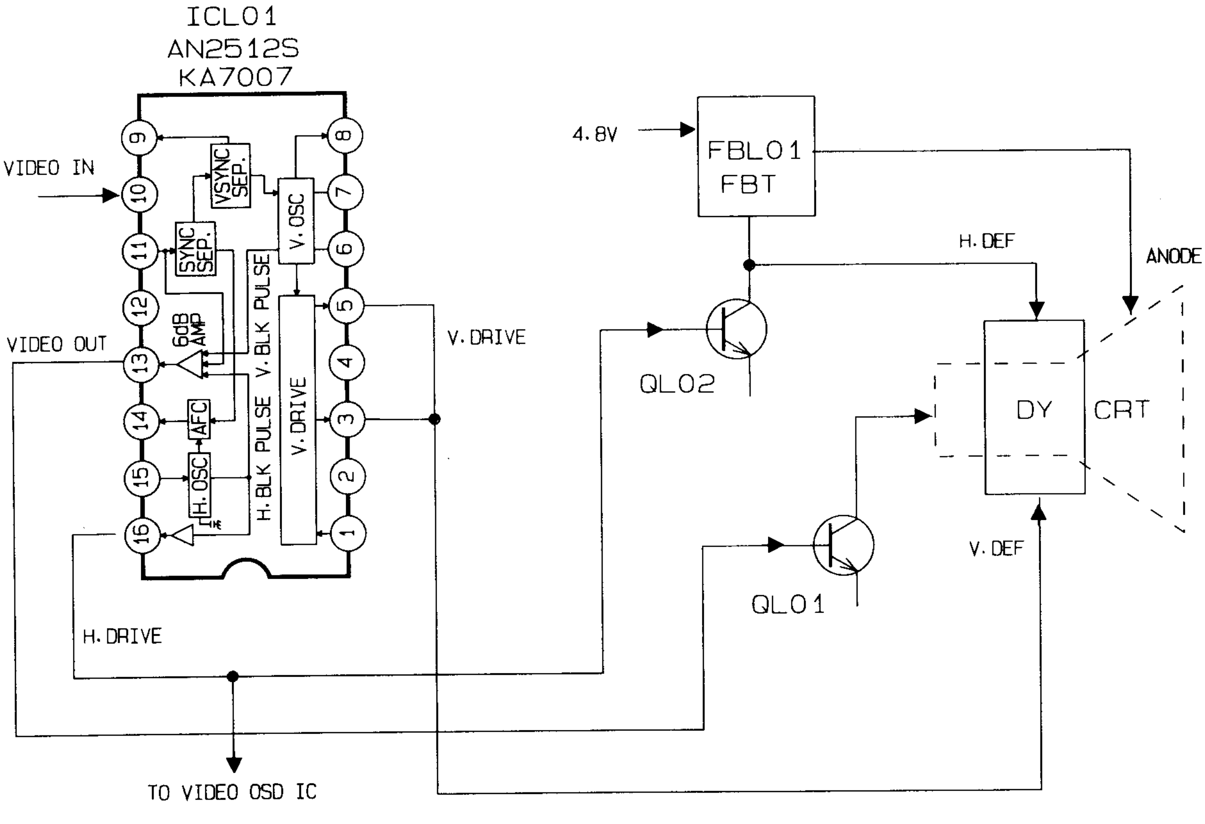
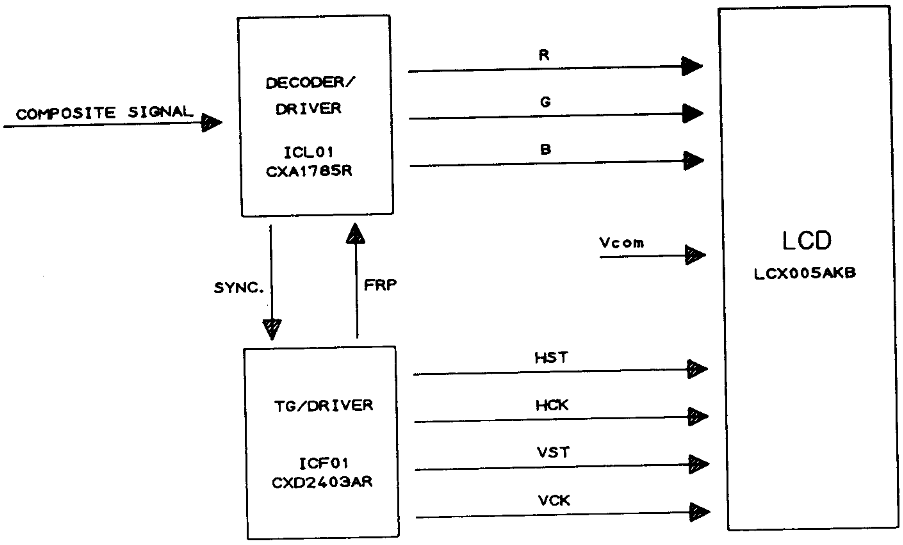

ICL01
AN2512S
KA7007
VIDEO IN
VIDEO OUT
VSYNC SEP.
SYNC SEP.
V.OSC
6dB AMP
AFC
H.OSC
H.BLK PULSE
V.BLK PULSE
V.DRIVE
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
H.DRIVE
TO VIDEO OSD IC
V.DRIVE
4.8V
FBL01
FBT
QL02
QL01
H.DEF
ANODE
DY
CRT
V.DEF

Fig. 22

1-4-9 CVF



1 Description CVF

At decoder part, video signal goten form vcr is processed in sync separation, color denodulation and matrix circunit then it is output as R.G.B signal and cormposite sync.
This R.G.B signal is processed in phase control, bright control r control at signal point and then it is input as AC wavefrom for operating LCD panel by FRP of T/Gdriver IC
Composite sync is input in T/G, output as clock as clock to operating LCD panel.
Each clock for operating LCD panel is transformed from 5V to 12V, input in LCD panel.
FRP signal for AC operating LCD and samplg hold pulse are output at simultaheusig

2 Control ciuit

2-1) It emphasis of the band near 1.5-2.0MHZ for betfer seeing sensihivitg by control of luminancefre chanraceteristics to obtain clear image.
2-3) hue control
It is control of color hue by varying barst and phase of carrier wave sighal

3 TG driver

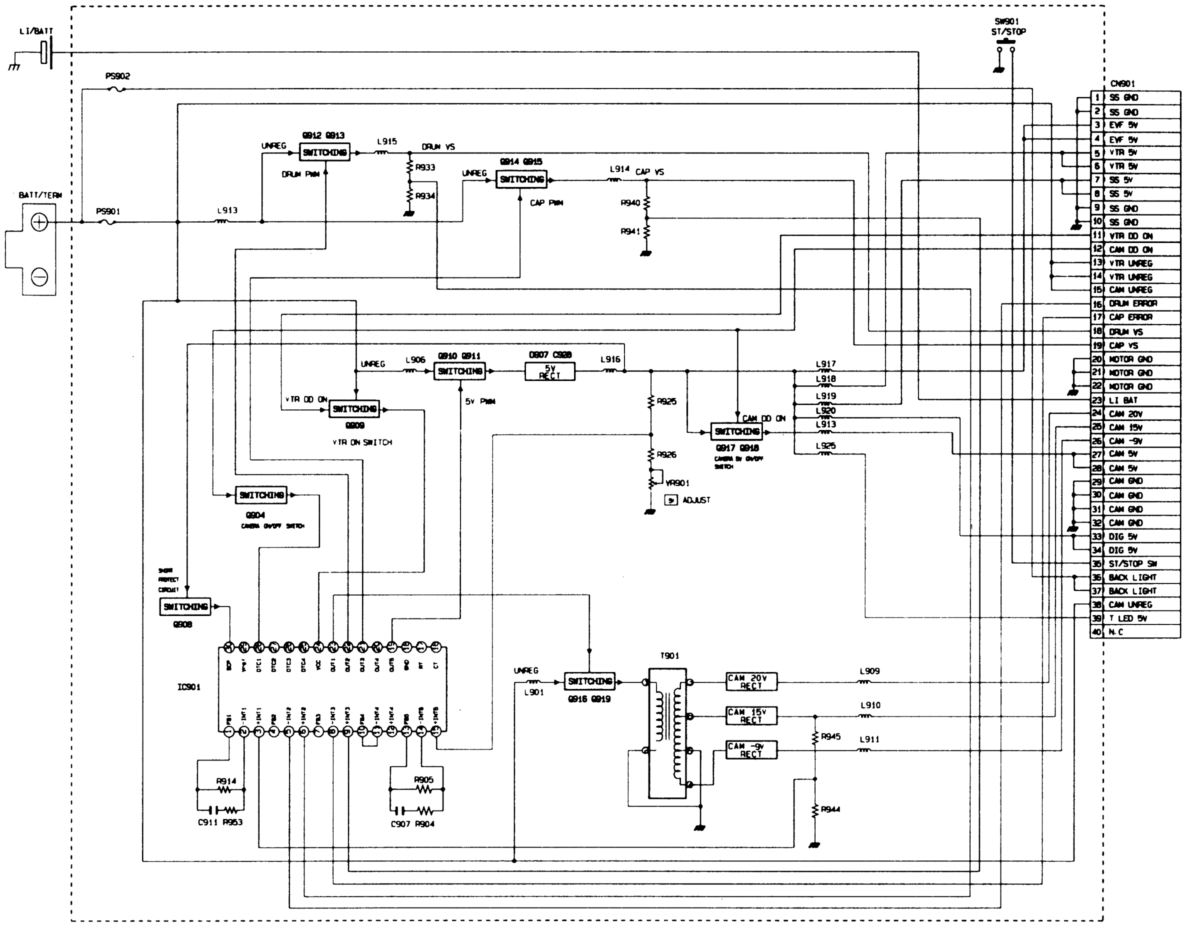
3-1) H.V shift register
Horizontal drivectian : output of 1 HST per 1 line
Vertical dircetion : opuput of 1 VST per 1 fild
3-2) AC operating palse (FRP)
3-3) Pulse for sanplig hold : SH1 , SH2, SH3
3-4) Pulse driver pant :
It is banseform of the level(5V) of each pulse which is from TG and operating panel to it level (12V) needed to pannel.
3-5) Separation of H.D: HD is separated from video signal
at ICF01(30th pin) sended to vcr part and used in OSD output.

2. VCR Block

2-1 DC/DC Converter

2-1-1 Power control

Power control is done by switching power control IC901 (TL1455C) which control power on/off of VCR and camera power block in DC/DC Converter.


LI/BATT
BATT/TERM
PS902
PS901
L913
UNREG
Q912 Q913
SWITCHING
DRUM PWM
L915
DRUM VS
R933
R934
UNREG
Q914 Q915
SWITCHING
CAP PWM
L914
CAP VS
R940
R941
SW901
ST/STOP
CN901
1 SS GND
2 SS GND
3 EVF 5V
4 EVF 5V
5 VTR 5V
6 VTR 5V
7 SS 5V
8 SS 5V
9 SS GND
10 SS GND
11 VTR DD ON
12 CAM DD ON
13 VTR UNREG
14 VTR UNREG
15 CAM UNREG
16 DRUM ERROR
17 CAP ERROR
18 DRUM VS
19 CAP VS
20 MOTOR GND
21 MOTOR GND
22 MOTOR GND
23 LI BAT
24 CAM 20V
25 CAM 15V
26 CAM -9V
27 CAM 5V
28 CAM 5V
29 CAM GND
30 CAM GND
31 CAM GND
32 CAM GND
33 DIG 5V
34 DIG 5V
35 ST/STOP SW
36 BACK LIGHT
37 BACK LIGHT
38 CAM UNREG
39 T LED 5V
40 N.C
UNREG
L906
Q910 Q911
SWITCHING
D907 C928
5V RECT
L916
5V PWM
VTR DD ON
SWITCHING
Q909
VTR ON SWITCH
R925
R926
VR901
5V ADJUST
CAM DD ON
SWITCHING
Q917 Q918
CAMERA 5V ON/OFF SWITCH
L917
L918
L919
L920
L913
L925
SWITCHING
Q904
CAMERA ON/OFF SWITCH
SHORT PROTECT CIRCUIT
SWITCHING
Q908
IC901
SCP
VREF
DTC1
DTC2
DTC3
DTC4
VCC
OUT1
OUT2
OUT3
OUT4
OUT5
GND
RT
CT
FB1
-INT1
+INT1
FB2
-INT2
+INT2
FB3
-INT3
+INT3
FB4
-INT4
+INT4
FB5
-INT5
+INT5
R914
C911 R953
R905
C907 R904
UNREG
L901
SWITCHING
Q916 Q919
T901
CAM 20V RECT
CAM 15V RECT
CAM -9V RECT
L909
L910
L911
R945
R944

VP-U12/U10 DC/DC CONVERTER BLOCK DIAGRAM

Fig. 23 DC/DC Converter Diagram

2-1-2 When VCR mode is active

When VCR mode is on and VCR DD(direct drive) 5V is applied, VCR ON/OFF switch(Q909) is operated to supply VCC voltage to pin 24 of IC901. when protection sensing TR Q908 detect abnormality of 5V line, Q908 connected to pin IC901 is turned off to stop the operation of IC901.

Vref of pin 29 of IC901 is 2.5V and saw tooth wave is generated at the pin 16. Considering time constant of R and C, ideal frequency is 447KHz. Vref (2.4V) is divided by R906 and R907 and is fed to pin 13 of IC901. through R904 and C907,input signal of in 3 and 4 which passed through OP amp, are tooth wave of pin17 and input signal of pin 6 are fed to PWM comparator. The output signal of PWM comparator is fed to pin 19 through and gate and TRS, the output voltage of pin 19 of IC901 turns switching TR Q910, Q911 to generate rectangular wave from 7.7 power supply voltage.

This rectangular wave is filtered by L916 and C928 to become DC 5V and is fed back to pin 15 of IC901 and protection sensing TR Q908 and signal fed back to pin 15 of IC901 is connected to VR901 to fix 5.0V voltage. L917, L918, L920, L925, CT930, CT931, CT945, C944 and used to filter out ripple voltage. Stabilized 5V is supplied to pin 3, 5, 7 and 27 of CN901, EVF 5V, Video 5V, SS 5V, and camera 5V.

2-1-3 When camera mode is active

Camera DD(direct drive) 5V is applied to camera on/off switch(Q904) and, protection sensing TR Q908 Q918. When Q904 is turned on, Vref is divided and the half Vref is supplied to pin 27 and 28 of IC901. when Q904 is turned on Q917 and Q908 are turned on, Then regulated 5V is filtered out by L913 and C914 and is supplied to pin 27 of CN901.
The waveform of pin 23 of IC901 is applied to switching TR Q916 and Q919 which switch voltage connected to transformer primary stage, pin 1 of T901. At the secondary stage of transformer, constant wave forms are generated from pin 3 and 6 pin T901 and are become 20V and 15V. D904, L901, CE914, L910, C916 and C917 are used to filter out ripple noise of 20V and 15V. Also -9V is used to operate CCD(Charged Coupled Device). -9V is obtained by rectfying waveform of pin 4 of T901 using D904 and filtering out ripple noise by L911, C918 and C919 and is fed to pin 26 of CN901.

2-1-4 Adjustment VR

VR901 - Adjust SS 5.0V
VR902 - Adjust camera 5.0V

2-1-5 Unreg voltageP

7.5V power supply voltage supplies to MT unreg 7.5V and light 7.5V, pin 13 and 36 of CN901.

2-2 System Control

2-2-1 Power control

Power control is divided into VCR power control and camera power control.

1 When battery is installed

When battery is installed, battery voltage is regulated to sys Unreg by DC/DC converter, System unreg is applied to pin 8 of IC602 (S8420). Then, the output voltage of pin 1 of IC602 is fed to VCR micom for power source.

2 When VCR power is turned on

When power switch is loacted to VCR mode input voltage of pin 15 of IC601 becomes low. Then, the output voltage of pin 9 of IC601 becomes high. The high signal is fed DC/DC converter to drive IC901 which supplies necessary power to each block for VCR mode.

3 When camera power is turned on

When Power switch is located to camera mode, the input voltage of pin 16 of IC601 becomes low. Then, the output voltages of pin 8 and 9 of IC601 become HIGI and arefed to DC/DC converter to supply necgssary power to each block for camera mode.

2-2-2 Sensor control

1 Tape top/end detection

Tape top/end is detected at the top/end sensor (Photo TR) by detecting light which is generated at the tape LED (photo diode) located at the center of cassette and is passed through transparent part of Tape top/end. If top(End) sensor input, pin 24 (25) of IC601 is detected pulse input pulse input generated by driving pulse output at pin 31 of IC601, it is regarded as tape top(End). If both top and end sensor inputs are detested, it is regarded that tape is adsent.

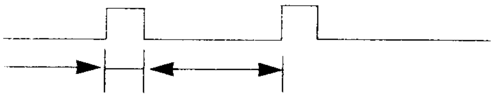
ITEM	A	B
PB REC	4mm	240ms
FPS/RPS	2.8ms	36ms
TAPE LED	2.8ms	14ms
Micom 31pin tape LED		

Fig. 24

2 Cassette down detection

When cassette housing is closed, the cassette down is detected by detecting low at pin 17 of IC601 which is generated by pressing mechanical cassette down switch located in side of deck ass'y.

3 Dew sensor detection

When the humidity in deck ass'y is increased, dew is detected at pin 23 of IC601 by raisig resistance of dew sensor which is located in deck ass'y. Then all the operation are stopped automatically.

4 Battery voltage detection

Battery voltage detection is detected by relation between reference voltage at pin 58 of IC601.

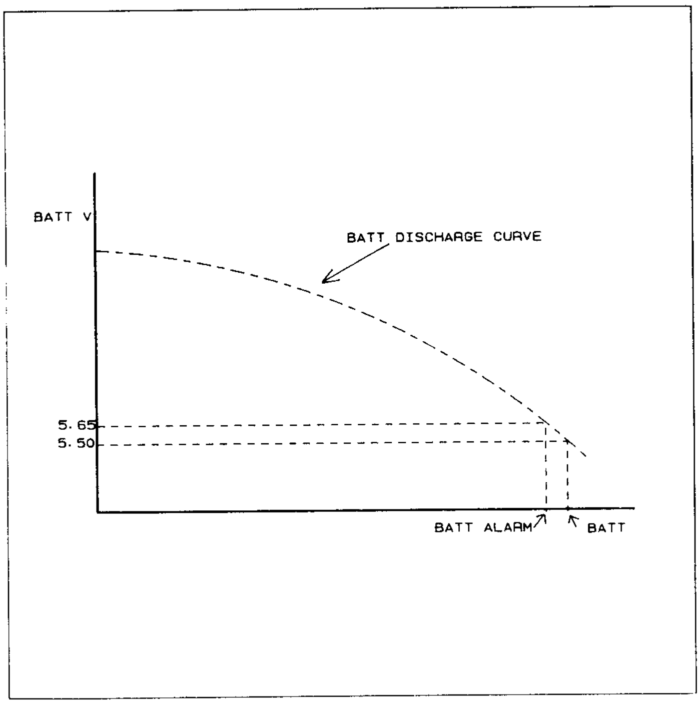


Fig. 25

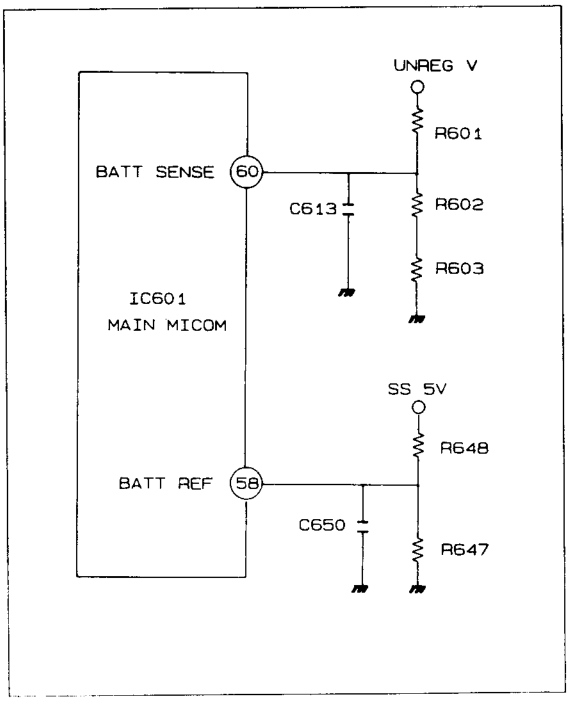


Fig. 26

2-2-3 Interface control

1 Camera data interface

Camera data interface is performed by a serial bus which is consisted of 4 lines, AFSI (Serial input), AF SO (Serial output) AF SCK (Serial clock) and AF CS (Chip strobe) at pin 79, 80, 81 and 83 of IC601.

2 Mode/function data interfacg

Mode data is made by mechanical mode switch located in the bottom of deck ass'y and is detected at pin 28, 29 and 30 of IC601. Function data is produced by tact, rotary or slide switch.

3 O.S.D data interface

O.S.D data interface is perfomed by a serial bus consisted of 3 liles. CG STB, CG CLK and CG SO at 36, 47 and of IC601. Also, O.S.D reset is used for the reset operation of O.S.D IC at pin 33 of IC601.

4 Remocon data interface

Remocon data is received by Remocon module located in mic PCB and is detected at pin 85 of IC601.

2-2-4 Reset circuit

When Lithuin battery for back-up is installed, reset signal is generated at pin 3 of IC602 at applying power source. When Lithuin battery is not installed, reset signal is generated at pin pin 5 fo IC602. in initializing operation reset signa has a higher priority order than battery voltage detection.

2-2-5 Protection and alarm function

1 Battery alarm

When battery pre-end is detected, empty battery indicator on O.S.D is blinking in 1Hz about 3 or 5 minutes before occuring of battery end. When. battery end is detected, empty battery indicator is blinking in 3Hz, and then power is turned offautomatically.

2 Tape alarm

1) When housing door is closed without tape, tape alarm turns off after blinking about 8 seconds.
2) When housing door is closed with record safety tape which the tape is closed, tape alarm turns off after blinking about 8 seconds.
3) When record start/stop key is pressed without tape or with record safety tape, tape alarm turns off after blinking about 8 seconds.
4) When tape remains lens lengthes under 5 minutes during record mode, tape alarm starts blinking.
5) When tape ends, tape alarm turns on. 4p

3 Detection of reel rotation

FG pulse of supply side and take up side are generated by photo coupler in deck ass'y and reel disk reflection plate and are rectified IC501 and are input at ppin 63 and 64 of IC601. if any FG pulse of supply or Take up reer does not vary input, reel emergency produces and stop mode is performed.

4 Detection of drum retation

FG and PC pulse of drum are rectied and inputs at pin 68 and 69 of IC601. if any FG or PG pulse does input or inputs under 60% of over 140% compared to stard frequency, drum emergency produces and stop mode is per is performed.

5 Detection of loading motor emergency

The ooutput of mechanism mode switch is varied accoding to operation to of loading motor driving. When the output varing during driving of loading motor is not detected over 10 seconds, loading emergency produces and mode is performed.

2-3 Servo Circuit

2-3-1 General

1 Drum and capstan control in playback mode

1) Drum cintrol in playback mode
In drum speed control driving voltage of drum motor is continiously changed to adjust D.FG and D.PG to 360Hz. Im drum phase control output timing of head switching pulse is controlled by generating form D.FG and D.PG which are decided by head switchingpoint adjustment.
2) Capstan control in playback mode In capstion control driving voltage of capstan motor is continiously changed to adjust C.FG to 820Hz. In capstion phase control ATF error input waveform is controlled by internal program of VCR micom (IC601).

2 Drum and Capstan comtrol in record mode

1) Drum control in record mode
In drum speed control it same way in playback mode. In drum phase control time difference between edge of head switching pulse v-Sync of Comp Sync is controlled to 6.5H.
2) Capstan control in record modeln capstan speed control it is same way in plaback mode. In capstan phase control SEL2 are controlled decide recording pilot frequency on tape.

2-3-2 Constitution

Total block diagram is shown at the figure 6 and 8.

NO	ITEM	DRUM	CAPSTAN
1	Rotary sensor	PCB Pattern Sensor	Resistor Sensor
2	Sensor AMP	CXA1512	CXA1512
3	ATF IC	KA8332	KA8322
4	Processor	CXP80732	CXP80732
5	Motor drive IC	TPIC1372	LB1851
6	Motor	Brushless motor	Brushless motor

< Table 1 >

2-3-3 Drun servo system

1 Sensor amp

D.FG and D.PG signal at drum rotation are generated by magnetic of drum motor and coiltype pattern of PCB standing face to face with that rectified at C505 (CXA1512) and are applied to pin 68 and of IC601.

2 Speed and phase detection

Speed and phase detection is perfomed by calculation of internal program for rectified D.FG. (refer to the fig. 5). Using D.PG as reset signal, output of D.FG is drivided by two and speed correction is performed everry 2 D.FG(60 defrees). Reference signal of phase detection is generated by dividing in side clock signal of VCR micom. In record mode V-Sync of recording video signal is divided at in side of VCR micom and is controlled to maintain constant timing with head switching pulse. Detected speed error and phase error are appropriate ratio and drum PWM is produced. This drum PWM is applied PWM drive of DC/DC converter and it changes DC level (Vs) to drive IC IC502 and 3 phase is produced to compensate speed and phase of drum motor.

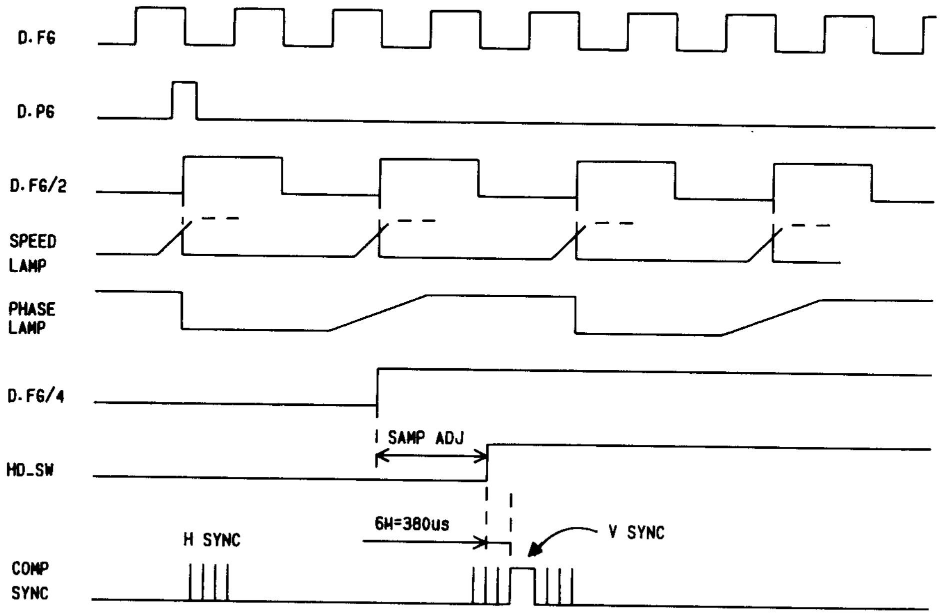

D.FG
D.PG
D.FG/2
SPEED LAMP
PHASE LAMP
D.FG/4
I SAMP ADJ
HD_SW
6H=380us
H SYNC
V SYNC
COMP SYNC

Fig. 27

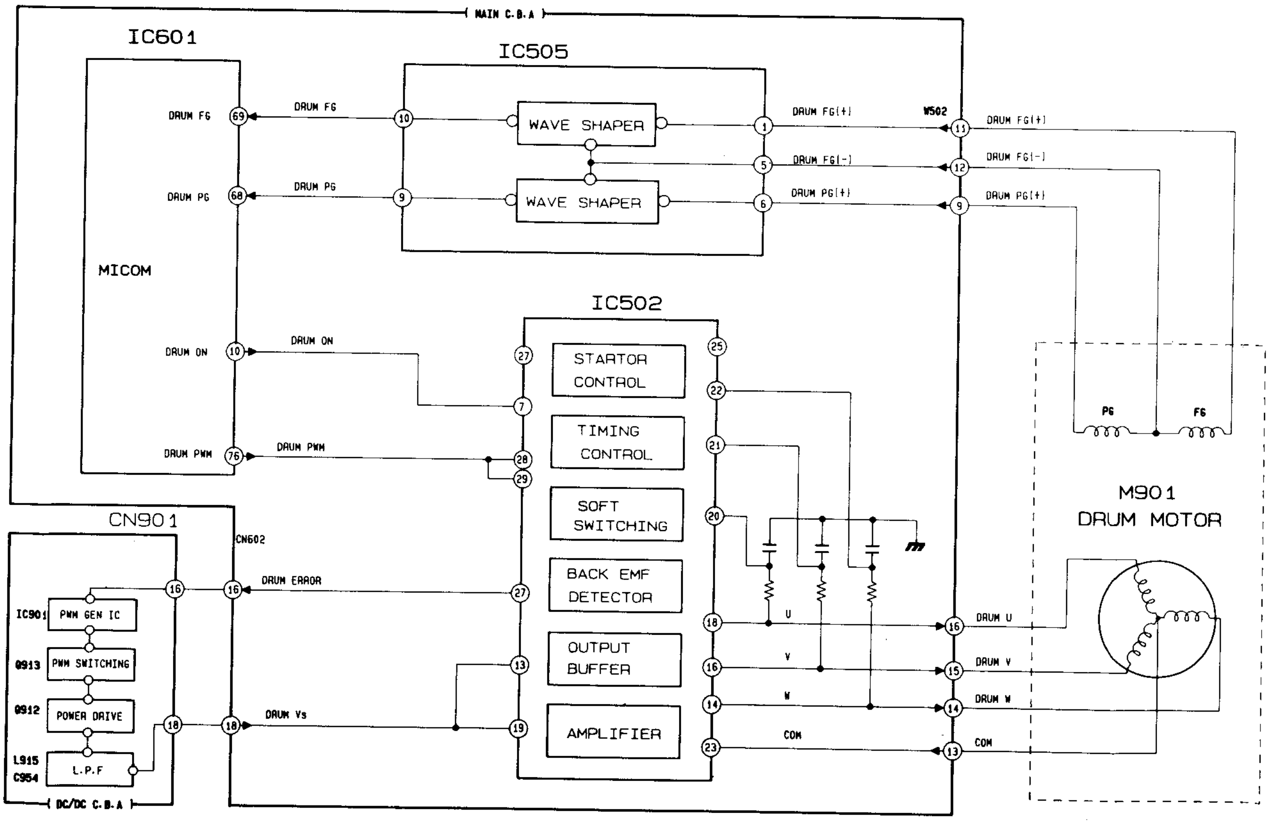
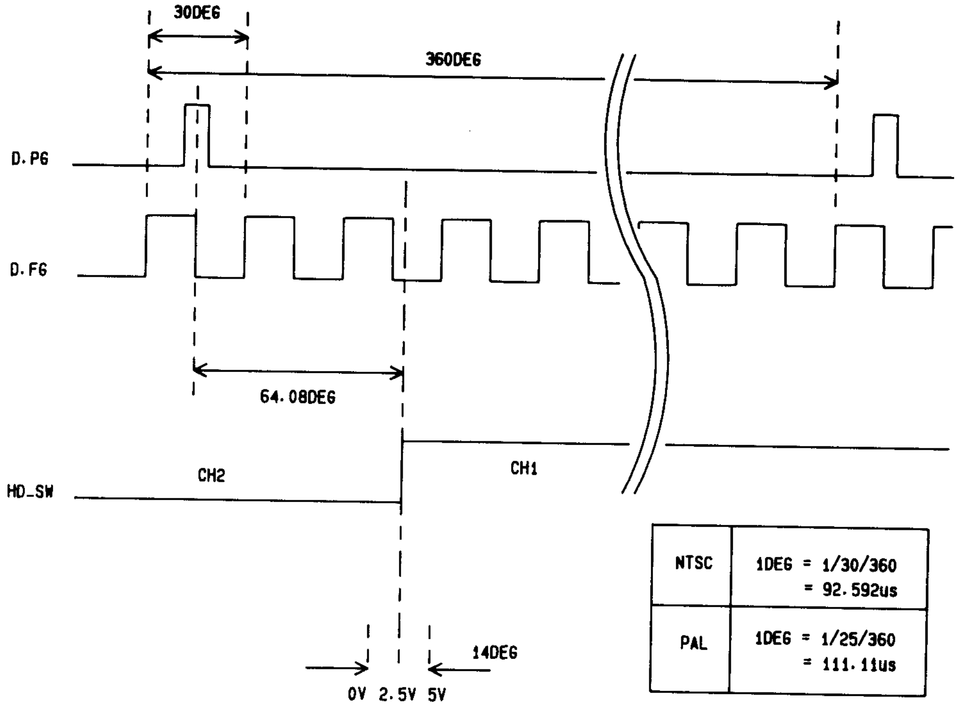

MAIN C.B.A
IC601
MICOM
DRUM FG
69
DRUM PG
68
DRUM ON
10
DRUM PWM
76
IC505
10
9
WAVE SHAPER
WAVE SHAPER
1
5
6
DRUM FG(+)
DRUM FG(-)
DRUM PG(+)
W502
11
12
9
DRUM FG(+)
DRUM FG(-)
DRUM PG(+)
IC502
STARTOR CONTROL
TIMING CONTROL
SOFT SWITCHING
BACK EMF DETECTOR
OUTPUT BUFFER
AMPLIFIER
27
7
28
29
27
13
19
25
22
21
20
18
16
14
23
U
V
W
COM
16
15
14
13
DRUM U
DRUM V
DRUM W
COM
PG
FG
M901
DRUM MOTOR
CN901
CN602
16
16
DRUM ERROR
18
18
DRUM Vs
IC901
PWM GEN IC
Q913
PWM SWITCHING
Q912
POWER DRIVE
L915
C954
L.P.F
DC/DC C.B.A

Fig. 28

2-3-4 Generation of head S/W signal

Head S/W signalis generated from D.FG and d.PG to select the the signal read by effective head on tape. Head S/W signal is switched every 180 degrees of drum rotation. Head switching adjustment is to cimpensate phase error bet ween head and D.PG genrated in drum ass'y and controls time difference of head switching start point and V Sync to 6.5H during playback mode of standard tape.



NTSC	1DEG = 1/30/360 = 92.592us
PAL	1DEG = 1/25/360 = 111.11us

Fig. 29

2-3-5 Capstan servo system

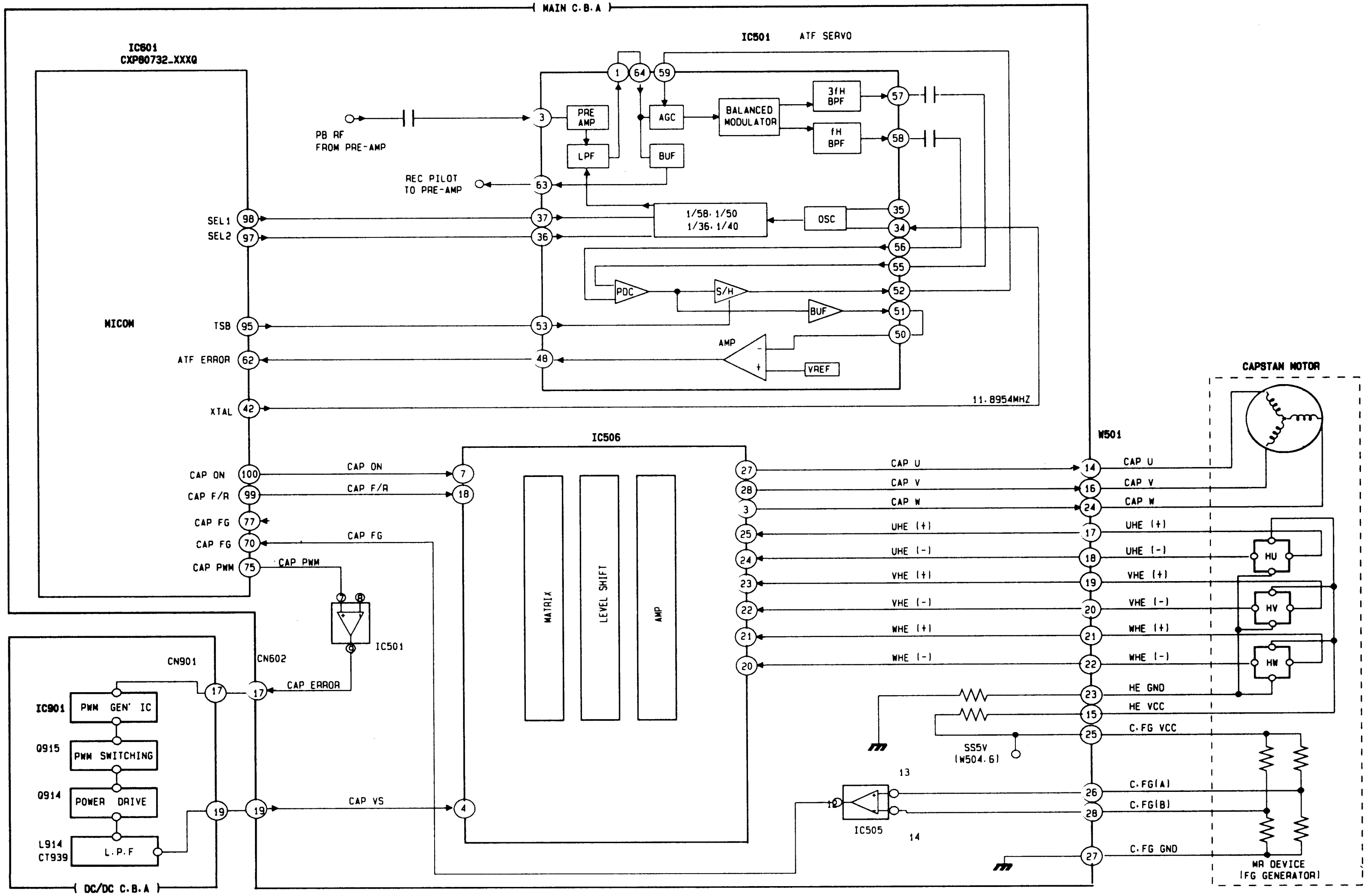
1 Sensor amp

Magnetic resistance device (MR sensor) is used to produce small C.FG for rotation detection of capstan motor. Small capstan FG is generated 360 cycle per a rotation and is applied IC505(CXA1512) to rectify to logical capstan FG.

2 Speed and phase detection

Speed detection is accomplished by comparing capstan FG frequency at pin 70 of IC601 and phase detection is accomplished by comparing ATF error waveform at pin 62 of IC601. Detected speed error and phase error are mixed at appropriate ratio and capstan PWM is produced. This capstan PWM is applied PWM drive of DC/DC converter and the PWM frequency is increased to 390KHz and it changes DC level(Vs) to capstan drive IC503 and 3 phase voltage is produced to compensate speed and phase of capstan motor.

CAPSTAN SERVO BLOCK DIAGRAM


MAIN C.B.A
IC601
CXP80732_XXXQ
MICON
SEL1 98
SEL2 97
TSB 95
ATF ERROR 62
XTAL 42
CAP ON 100
CAP F/R 99
CAP FG 77
CAP FG 70
CAP PWM 75
IC501 ATF SERVO
PB RF
FROM PRE-AMP
REC PILOT
TO PRE-AMP
PRE AMP
LPF
AGC
BUF
BALANCED MODULATOR
3fH BPF
fH BPF
1/58, 1/50
1/36, 1/40
OSC
PDC
S/H
BUF
AMP
VREF
11.8954MHZ
IC506
MATRIX
LEVEL SHIFT
AMP
CAP ON
CAP F/R
CAP FG
CAP PWM
IC501
CAP ERROR
CAP VS
CAP U
CAP V
CAP W
UHE (+)
UHE (-)
VHE (+)
VHE (-)
WHE (+)
WHE (-)
W501
HE GND
HE VCC
C.FG VCC
C.FG(A)
C.FG(B)
C.FG GND
SS5V
(W504.6)
IC505
13
14
CAPSTAN MOTOR
HU
HV
HW
MR DEVICE
(FG GENERATOR)
CN901
CN602
IC901
PWM GEN' IC
Q915
PWM SWITCHING
Q914
POWER DRIVE
L914
CT939
L.P.F
DC/DC C.B.A

SV-H66 CAPSTAN SERVO BLOCK DIAGRAM

Fig.30

2-3-6 ATF (Automatic Track Finding)

In the 8mm system, AFT method is for tracking. This method records 4 kinds of pilot signal to each track on the tape and these signal are perfomed to detect trace position of head during playback.

1. Principle of operation

As shown in Fig. 9, pilot signal overlapped with video signal are recorded sequentially on the tape at the period of 4 tracks.
There are 16KHz or 46KHz frequency difference of adjacent pilot signal. F1 and F3 are recorded by and F4 are recorded by CH2. (refer to Fig. 10)

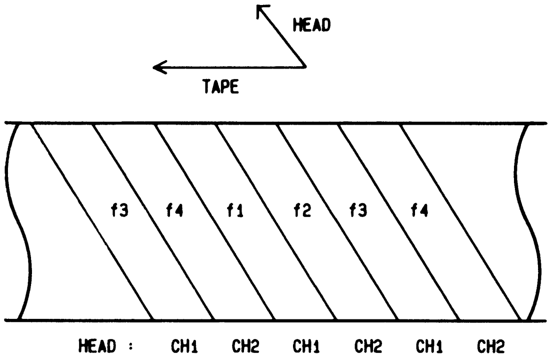


Fig. 31

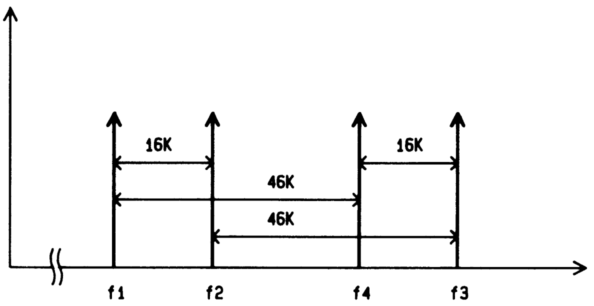


Fig. 32

PILOT (Fi)	Frequency (KHz)		HEAD	Frequency diff (KHz)	Ni	SEL	
	NTSC	PAL				1	2
F1	102.54	101.02	CH1	16	58	H	H
F2	118.95	117.19	CH2	46	50	L	H
F3	165.21	162.79	CH1	16	36	H	L
F4	148.69	146.48	CH2	46	40	L	L
F1	102.54	101.02	CH1		58	H	H

Fo=378Fh=5.9485MHz (NTSC)
=375Fh=5.8594MHz (PAL)

Fi=Fo/Ni

< Table 2 >

2 Generation of pilot

The ATF pilot f1,f2,f3 and f4 are produced by ATF IC IC501 on controlling of SEL1 and SEL2 pin from 97 and 98 of IC601.

SEL1	SEL2	PILOT
H	H	F1
L	H	F2
H	L	F3
L	L	F4

< Table 3 >

3 Recording of ATF pilot

In record mode,ATF IC is turned record status by PB/REC signal from pin 93 of IC601.At this status REC pilot f1,f2, f3 and f4 are produced by logical control of SEL1 and SEL2 and are applied to PRE AMP through 63.

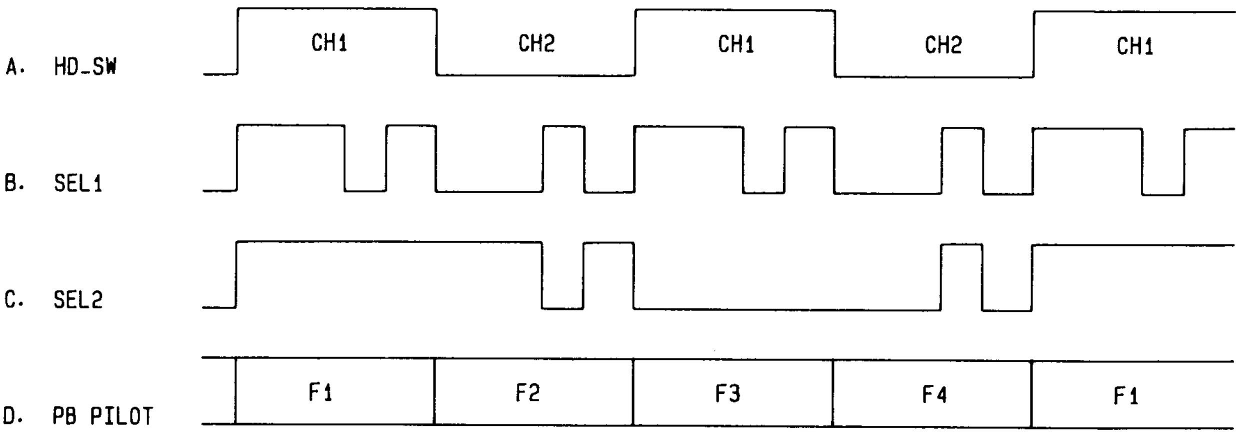
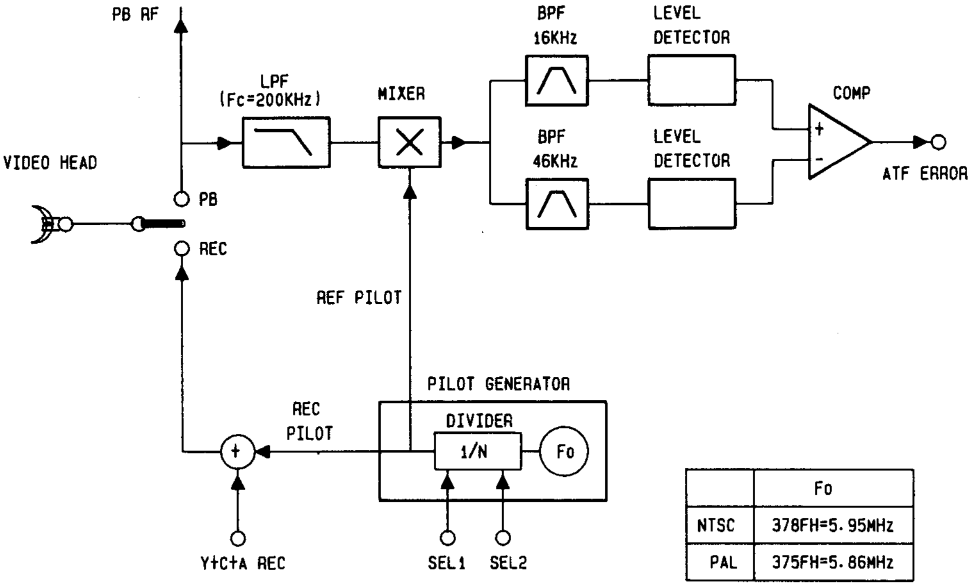

A. HD_SW
CH1
CH2
CH1
CH2
CH1
B. SEL1
C. SEL2
D. PB PILOT
F1
F2
F3
F4
F1

Fig. 33

4 ATF in playback mode


PB RF
VIDEO HEAD
PB
REC
LPF (Fc=200KHz)
MIXER
BPF 16KHz
LEVEL DETECTOR
BPF 46KHz
LEVEL DETECTOR
COMP
+
-
ATF ERROR
REF PILOT
PILOT GENERATOR
REC PILOT
DIVIDER
1/N
Fo
+
Y+C+A REC
SEL1
SEL2

	Fo
NTSC	378FH=5.95MHz
PAL	375FH=5.86MHz

Fig. 34

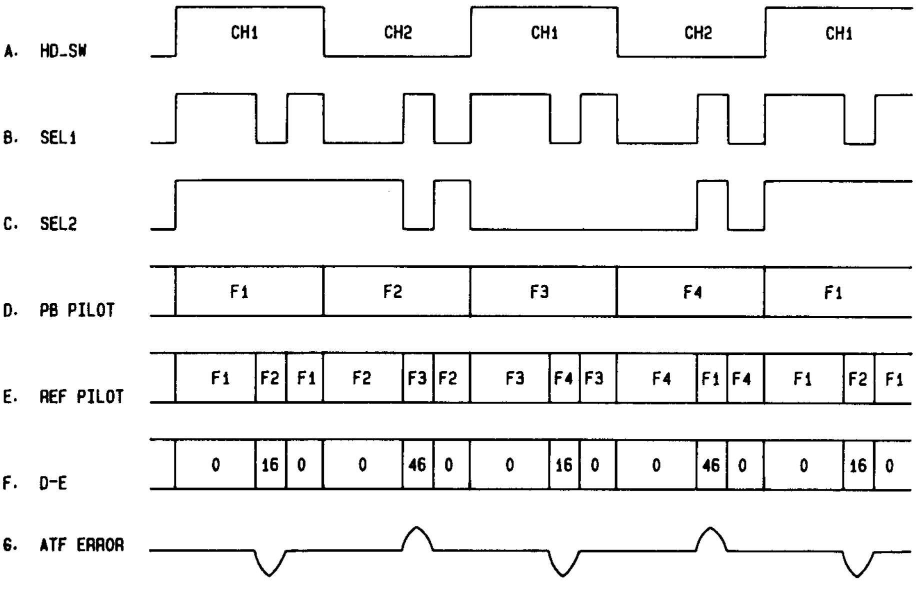

A. HD_SW
CH1
CH2
CH1
CH2
CH1
B. SEL1
C. SEL2
D. PB PILOT
F1
F2
F3
F4
F1
E. REF PILOT
F1 F2 F1 F2 F3 F2 F3 F4 F3 F4 F1 F4 F1 F2 F1
F. D-E
0 16 0 0 46 0 0 16 0 0 46 0 0 16 0
G. ATF ERROR

Fig. 35

In playback mode, ATF IC is turned play back status by PB/REC signal from pin 93 of IC601. At this status REF pilot F1, F2, F3 and F4 are produced by logical control of SEL and SEL2. PB pilot read from the tape is processed through amp, LPF and, LPF and AGC of inside fo ATF IC and is compared to REF pilot at BM (Balanced Modulator). The difference componentbet between PB pilot and REF pilot and REF pilot passed therough 16KHz/46kHz BPF and level detector amp and is output to ATF errpr from pin 48 of ATF IC to pin 62 of IC601. The wavefrom of above explanation is Fig.13 and VCR micom coppensates how capstan phase is fast or slow on the basis of ATF error wavefrom.

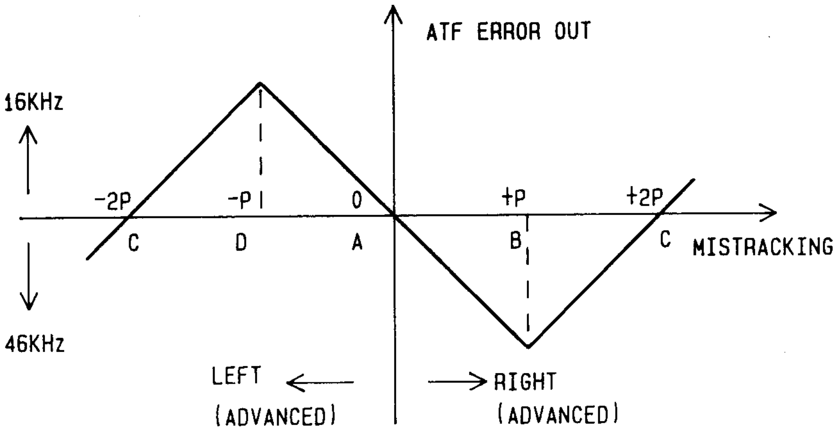


Fig. 36

2-3-7 Loading servo system

Loading motor is drived dy IC502(BA6285FS) which is controlled by VCR micom. LM FWD and LM REV signal of VCR micom are performed forward or reverse or reverse rotation of loading motor and then mode switch status is changed as like Table4 and fig. 15.

Point	MODE S/W A	MODE S/W B	MODE S/W C	Mech Mode
Eject	L	L	H	Eject
UL. stop	H	H	L	Unloading Stop
L. stop	H	L	L	Loading Stop
PB	H	L	H	PB,REC,FF ,REC.PAUSE

< Table 4 >

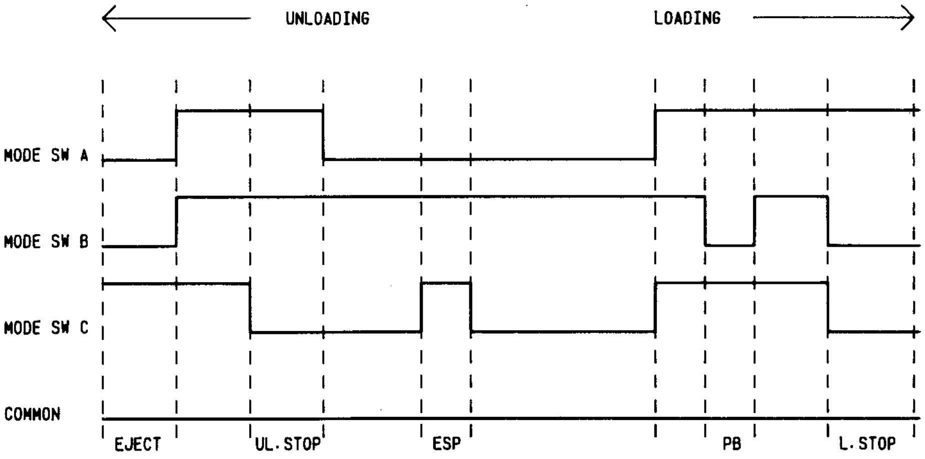

UNLOADING
LOADING
MODE SW A
MODE SW B
MODE SW C
COMMON
EJECT
UL. STOP
ESP
PB
L. STOP

Fig. 37

2-3-8 Other operations

1 fH Compensation

When the relative speed between tape and head is changed during varing speed play back mode, it causes color spread problem. To prevent above problem, horizonization frequency needs chang the frequency It means speed of drum is slightly changed to make relative speed is same to that of normal playback It called fH compensation.

SYSTEM	NTSC		SYSTEM	PAL	
	DFG(Hz)	CFG(Hz)		DFG(Hz)	CFG(Hz)
PLAY/REC	360	820	PLAY/REC	300	1146
FPS(X9)	370.9	7611.1	FPS(7)	312	8342.7
RPS(X-7)	349	5569.6	RPS(-5)	288.9	5518.3

< Table 5 >

2 Jog VD Singnal

Jog VD is the pseudo vertical synchronization signal generated VCR micom because it is head to detect normally the vertical synchronization sinal of composite video signal which is influenced by the noise during varing speed playback.

3 Jog SP/LP Signal

Jog SP/LP is the input signal to VCR micom to decide the speed mode of tape during varing speed playback. This signal is obtained by envelope input to IC501 (KA8332).

4 CLOG (Head Dirt Detection)

CLOG is the signal to decide whether the envelope is or isn't during playback.When there is not envelope because tape without recorded signal is played back or some dirt is stuck to head, the screen is muted during playback, the noise is on the full screen during varing speed play back or the counter is stopper is stopped during FF/REW.

5 Flying erase head control

During record, 2 tracks are erased by flying erase head at the same time and refering diagram and timing chart are the following.

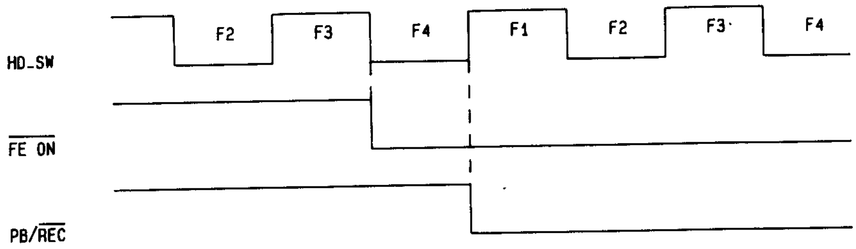


Fig. 38

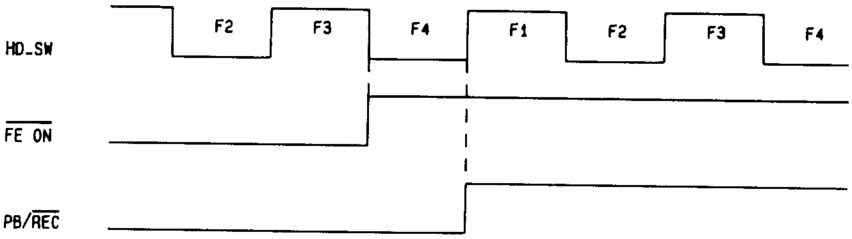

HD_SW
F2
F3
F4
F1
F2
F3
F4
FE ON
PB/REC

Fig. 39

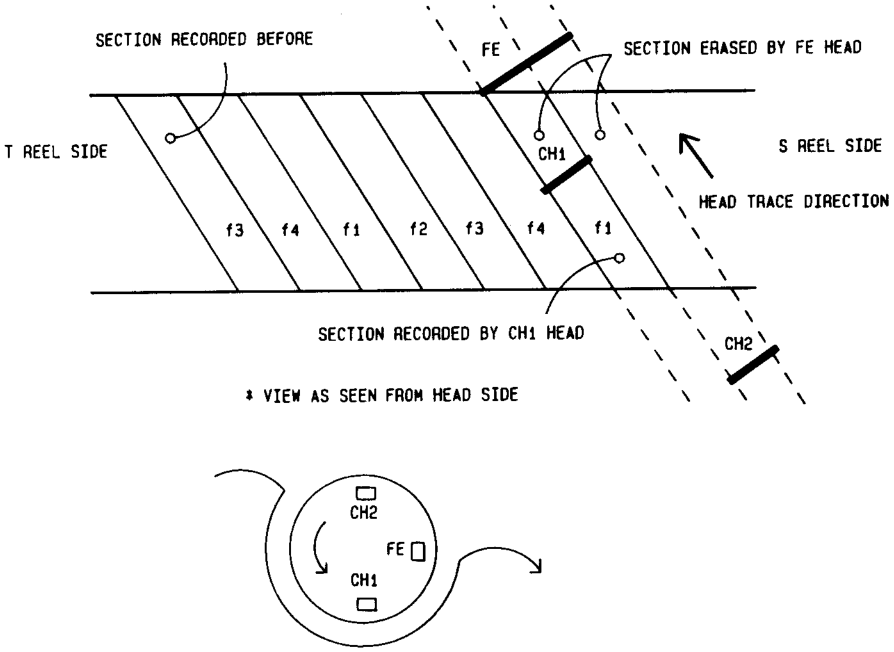

SECTION RECORDED BEFORE
FE
SECTION ERASED BY FE HEAD
T REEL SIDE
CH1
S REEL SIDE
HEAD TRACE DIRECTION
f3
f4
f1
f2
f3
f4
f1
SECTION RECORDED BY CH1 HEAD
CH2
* VIEW AS SEEN FROM HEAD SIDE
CH2
FE
CH1

Fig. 40

2-4-1 Playback system

1 PB Y RF EQ

PB Y RF EQ is indicated block diagrm and circuit diagram as fig.19 and 20.

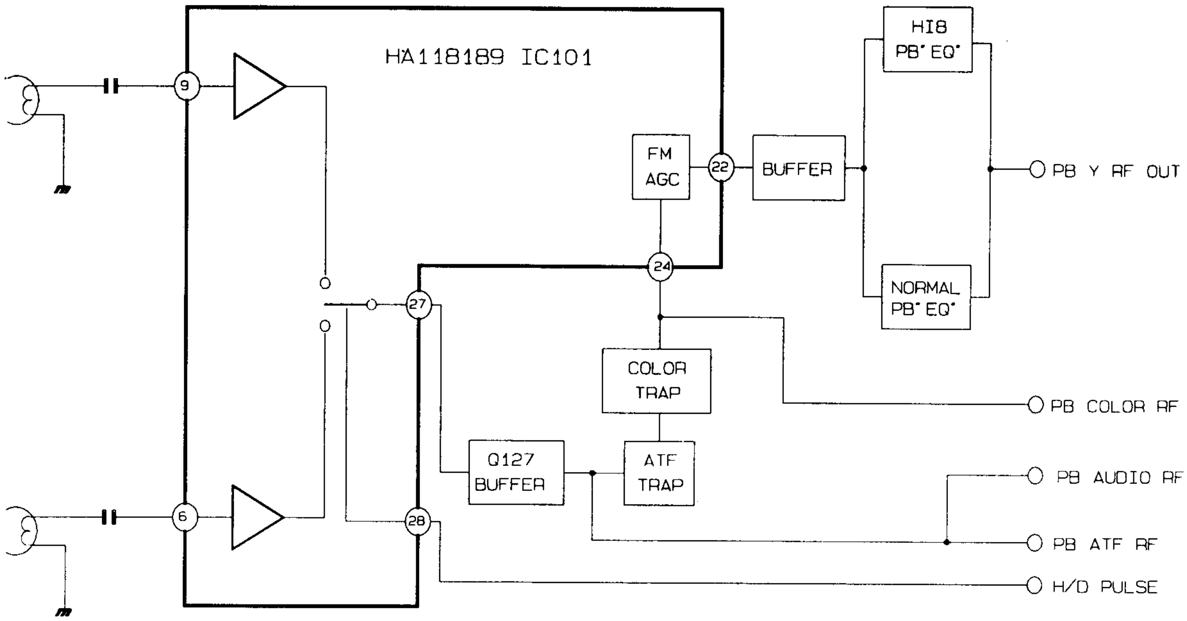

HA118189 IC101
9
6
27
28
22
24
FM AGC
BUFFER
HI8 PB' EQ'
NORMAL PB' EQ'
COLOR TRAP
ATF TRAP
Q127 BUFFER
PB Y RF OUT
PB COLOR RF
PB AUDIO RF
PB ATF RF
H/D PULSE

Fig. 41

The block diagram of fig.19 is FM signal process from drum before it is demodulated.

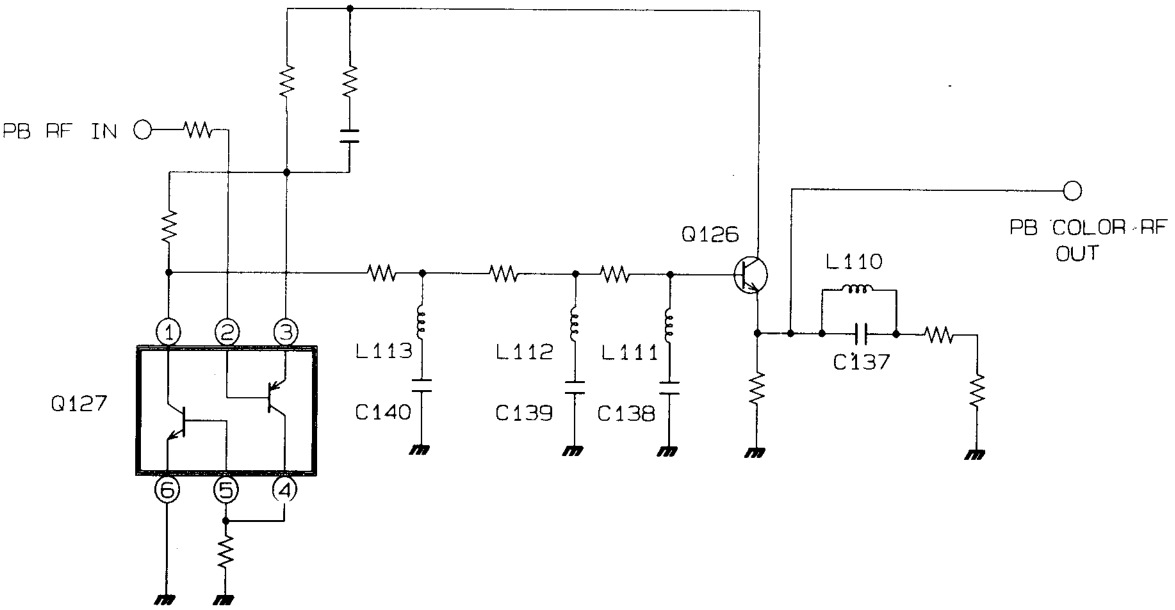

PB RF IN
Q126
L110
C137
PB COLOR RF OUT
L113
C140
L112
C139
L111
C138
Q127
1
2
3
6
5
4

Fig. 42

The circuit of fig. 20 is a circuit which is the part in dotted line of fig. 19. The basic concept of the trap is using the resonace of L and C and the equation of the resonance frequency is

$$fo = \frac{1}{1/2\pi\sqrt{LC}},$$

There are tow kinds of resonance, parallel and serial resonance. In this circuit 4 trap is consisted by 3 serial resonance and 1 parallel resonance. The difference between serial and parallel resonance is that the impedance Z of serial rerial resonance has minimun value at resonance point and the impedance Z of parallel resonance has maximun value atresonance point. So 1.5MHz trap 1.7MHz trap of audio frequency are consisted of L113/C140 and L111/C138, 150KHz trap of ATE signal is consisted of L112/C139 and 743KHz trap of color frequency is consited of L110/C137 parallel resonace. RF signal spectrum output from pre-amp IC is fig. 21 and the spectrum of B point after being passed through traps fig. 20.

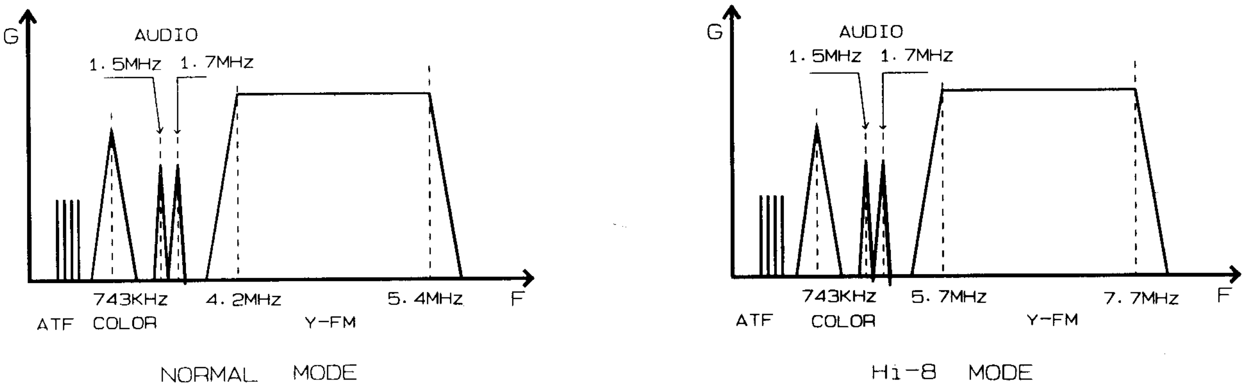
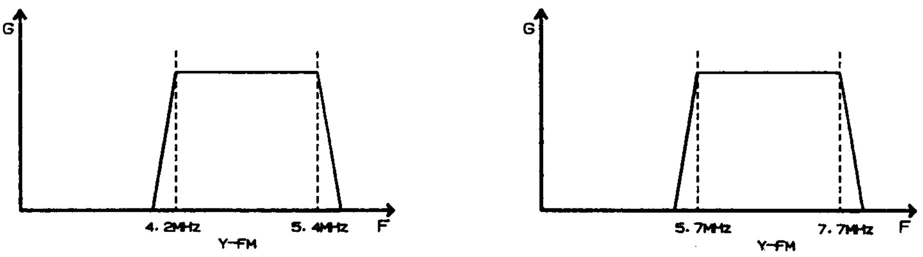


Fig. 43



NORMAL MODE

HI-FI 8 MODE

Fig. 44

As fig. 21 is shown, pilot, audio and color signal are not necessary for Luminance siganl processing so these signal are elimnated by traps. If these signal are not eliminated, the noise may be seen in the Luminance signal.

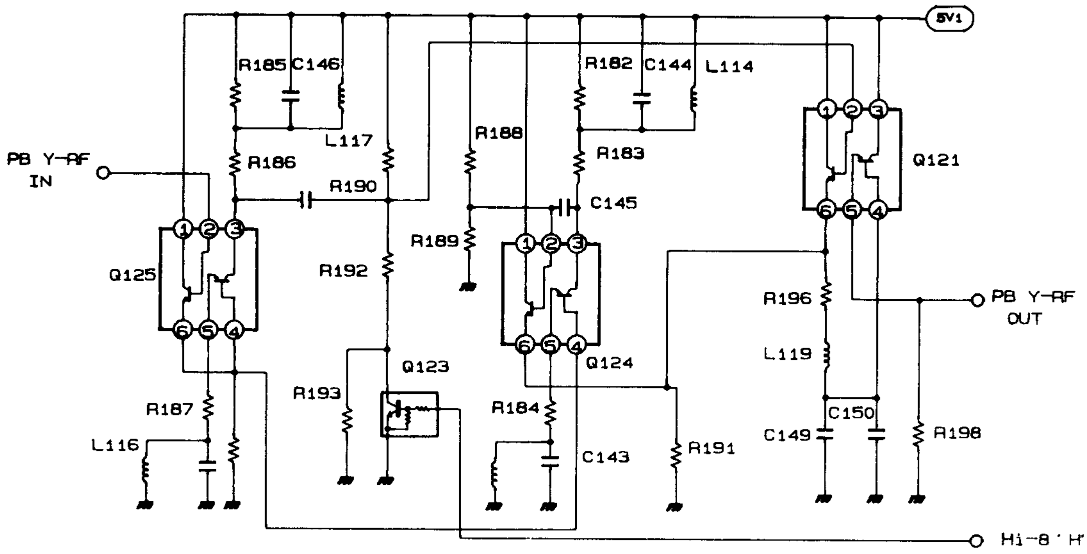

5V1
R185
C146
R182
C144
L114
PB Y-RF IN
R186
L117
R188
R183
Q121
R190
C145
R189
Q125
R192
R196
PB Y-RF OUT
Q123
Q124
L119
R193
R187
R184
C150
C149
R198
L116
C143
R191
Hi-8 ' H'

Fig. 45

Fig. 23 is PB RF Y EQ and the ampiification is decided by RE(emitterresistance) and RC (collector resistance). Amlication (A) ≒ RC/RE also in here, to prevent, from loss of high frequency characteristic, the amplication ratio related frequency is changed by L117/C146, L114/C114 and L115/C143 on the basis of theory which the impedance of parallel resonance is maximum.
It compensates frequency loss in nomal and Hi 8mm mode.If this block does not operate normally, characteristic of high and low band width are not good, resolution level is downed and white/black triggers are happened.

2 PB C EQ

The circuit diagram and block diagram of PB C EQ are as follows.

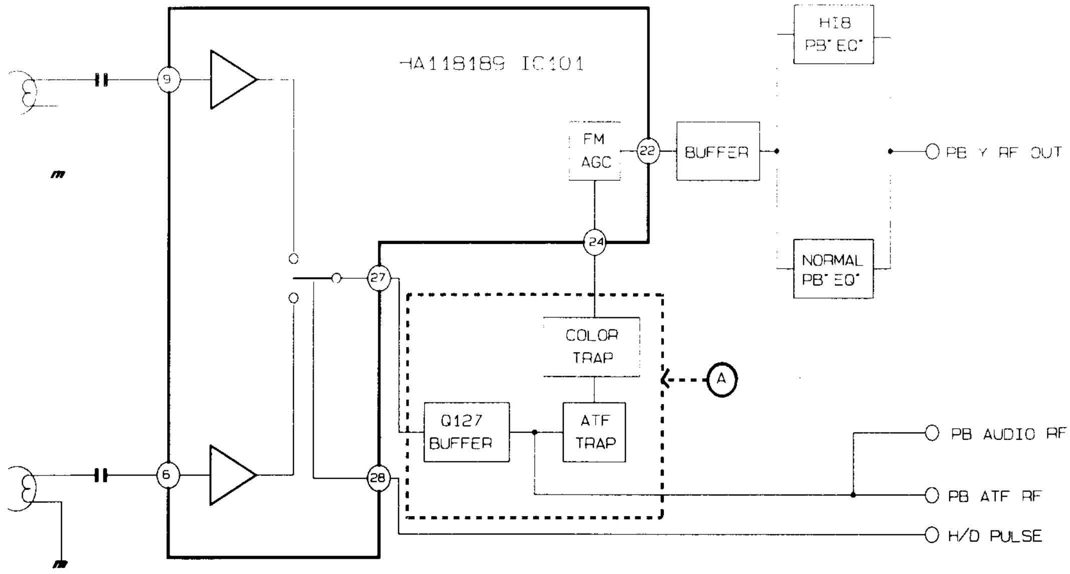

HA118189 IC101
HI8 PB' EQ'
FM AGC
BUFFER
PB Y RF OUT
NORMAL PB' EQ'
COLOR TRAP
A
Q127 BUFFER
ATF TRAP
PB AUDIO RF
PB ATF RF
H/D PULSE
9
6
22
24
27
28

Fig. 46

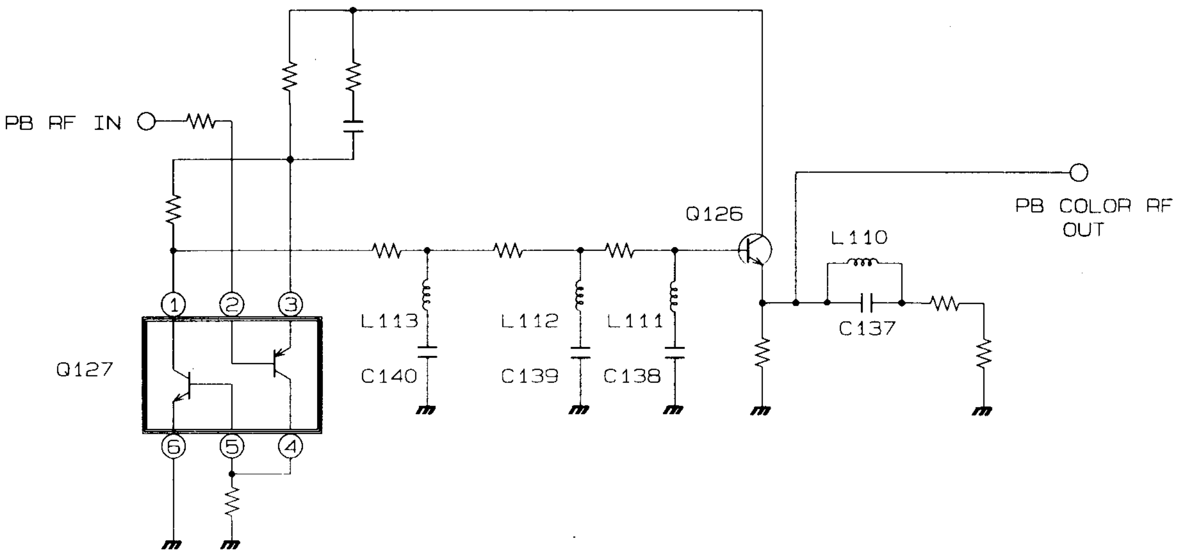


Fig. 47

1.5MHz and 1.7MHz are eliminated dy audio traps or 1.5MHz and 1.7MHz of stereo audio signal causes beat on thescreen and noise in color signal.

3 Signal process in PB system

After passing throgh PB EQ, Y-RF and color-RF are input pin 8 and 10 of IC200 respectively. Y-RF signal applied pin 8 is passed through main deemphasis and luminance filter, is output to 56 to be adjusted to different delay value according to whether normal mode or Hi 8 mode, is input to pin 55 to be passed through noise canceller and YNR and is output to pin 51 as luminance signal. Color-RF signal applied to pin 10 is passeed through PB C LPF, AGC, Burst DE-emphasis, color crosstalk canceller and color deempahsis is output from pin 43 to pin 45 to be passed buffer, finally to pin 38 and is applied A/V jack and S-jack passed through IC300.

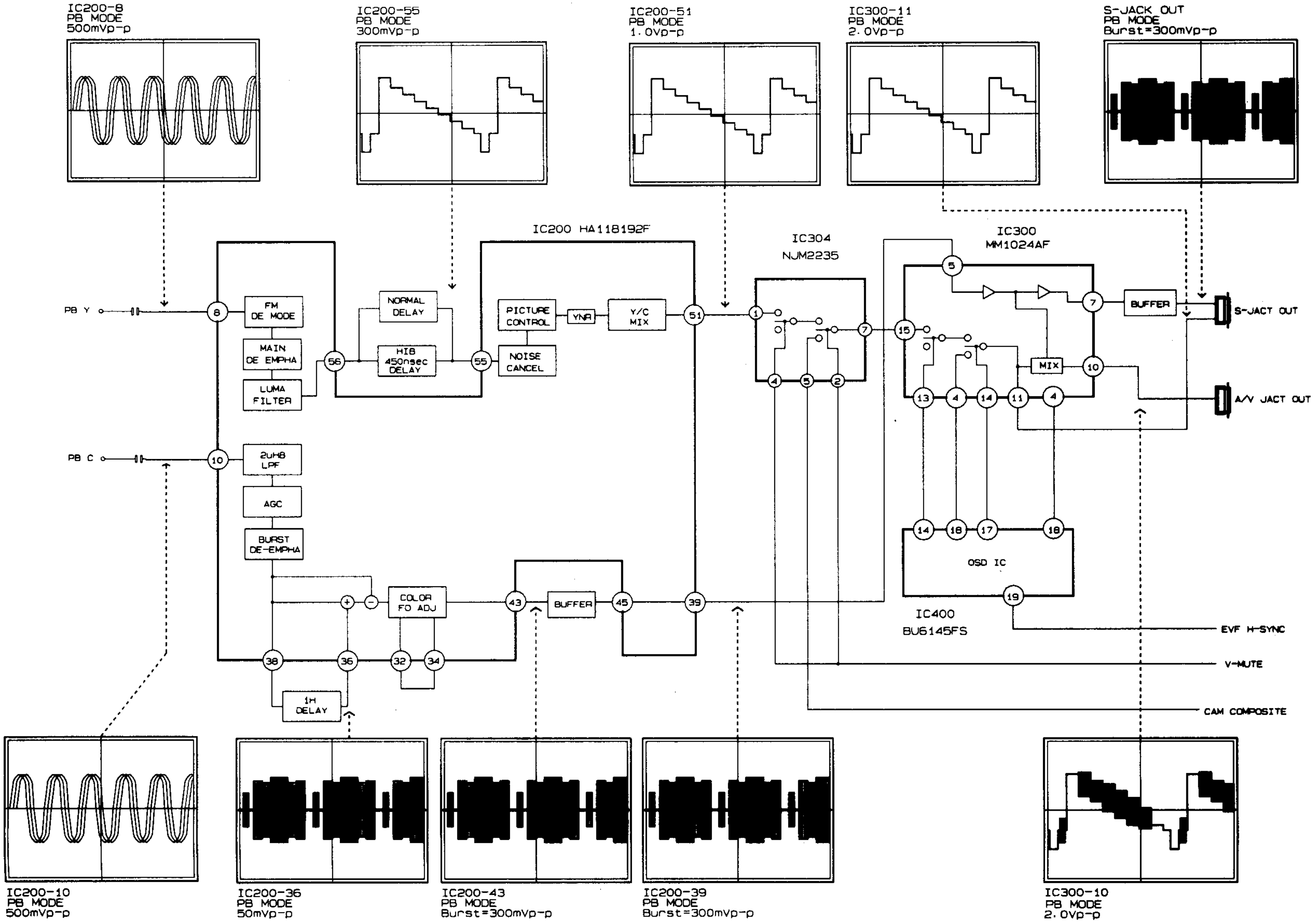
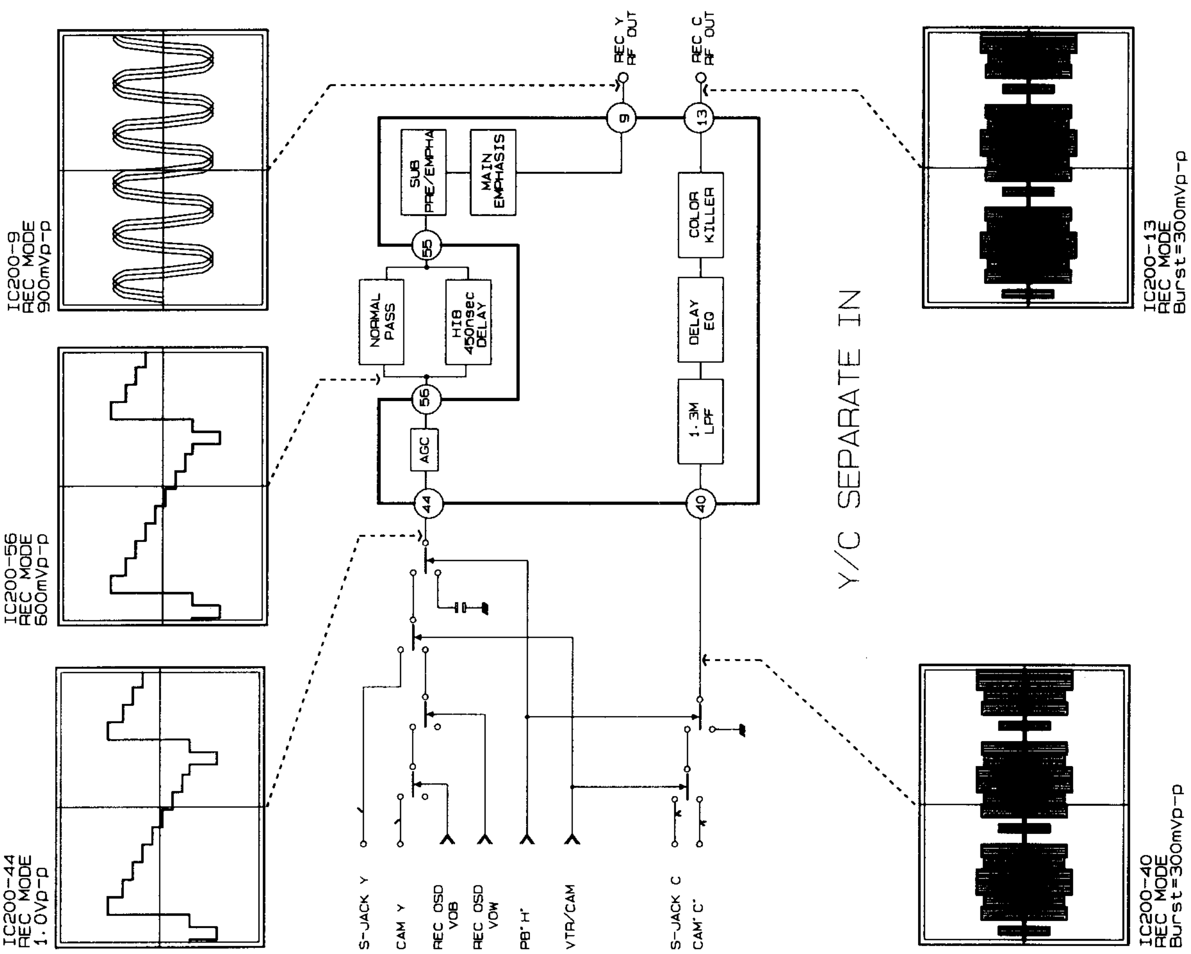

IC200-8
PB MODE
500mVp-p
IC200-55
PB MODE
300mVp-p
IC200-51
PB MODE
1.0Vp-p
IC300-11
PB MODE
2.0Vp-p
S-JACK OUT
PB MODE
Burst=300mVp-p
IC200 HA118192F
IC304
NJM2235
IC300
MM1024AF
PB Y
PB C
8
10
FM DE MODE
MAIN DE EMPHA
LUMA FILTER
56
NORMAL DELAY
H1B 450nsec DELAY
55
PICTURE CONTROL
YNR
Y/C MIX
NOISE CANCEL
51
1
7
4
5
2
15
5
7
BUFFER
S-JACT OUT
MIX
10
13
4
14
11
4
A/V JACT OUT
2uH8 LPF
AGC
BURST DE-EMPHA
+
-
COLOR FO ADJ
43
BUFFER
45
39
38
36
32
34
1H DELAY
14
18
17
18
OSD IC
19
IC400
BU6145FS
EVF H-SYNC
V-MUTE
CAM COMPOSITE
IC200-10
PB MODE
500mVp-p
IC200-36
PB MODE
50mVp-p
IC200-43
PB MODE
Burst=300mVp-p
IC200-39
PB MODE
Burst=300mVp-p
IC300-10
PB MODE
2.0Vp-p

Fig. 48

2-4-2. Record system

1 Signal process in record system

Composite video signal, Luminance signal and color signal are input to pin 49, 44 and 40 of IC200. These signals are selected by input select signal of VCR micom. Are passed through video AGC and is applied to COM filter to seperate Y/C. When camera and S-jack seperate signal are input to pin 44 and 40, Luminance signal is output to pin 56. The signal from pin 56 is adjuted to different Y delay time according to modes is input to pin 55 to be passed sub pre-emphasis, main emphasis, white/dark clip and FM modulation and is out to pin 9 as Y RF out. Color signal is passed through BPF, ACC, emphasis and burst emphasis for low band modulation is passed through REC C LPF and Color killer and is output to pin 13.



REC Y RF OUT
REC C RF OUT
IC200-9 REC MODE 900mVp-p
IC200-56 REC MODE 600mVp-p
IC200-44 REC MODE 1.0Vp-p
IC200-13 REC MODE Burst=300mVp-p
IC200-40 REC MODE Burst=300mVp-p
SUB PRE/EMPHA
MAIN EMPHASIS
NORMAL PASS
H18 450nsec DELAY
AGC
COLOR KILLER
DELAY EQ
1.3M LPF
9
13
55
56
44
40
Y/C SEPARATE IN
S-JACK Y
CAM Y
REC OSD VOB
REC OSD VOW
PB'H'
VTR/CAM
S-JACK C
CAM'C'

Fig. 49

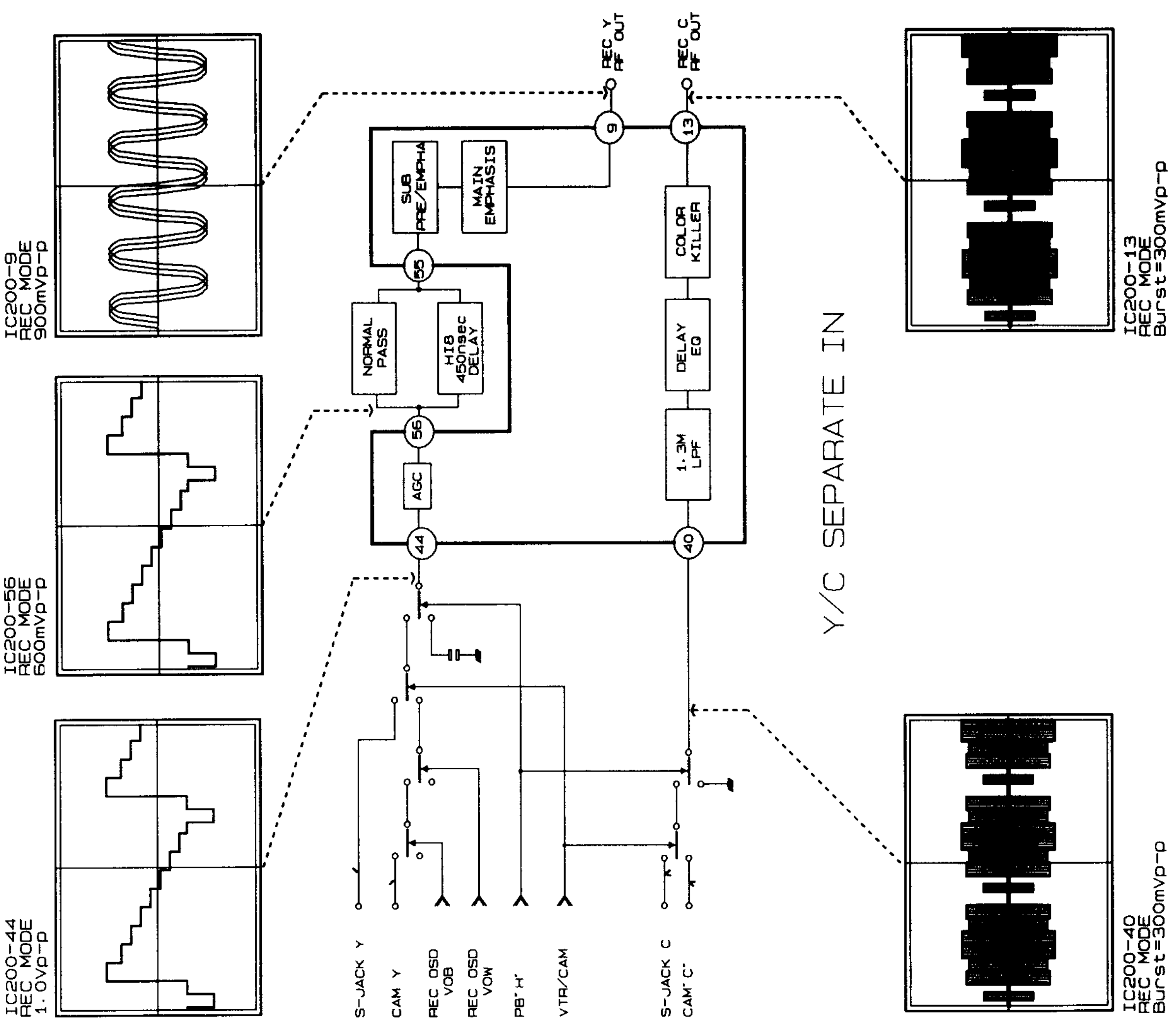

IC200-9
REC MODE
900mVp-p
IC200-56
REC MODE
600mVp-p
IC200-44
REC MODE
1.0Vp-p
IC200-13
REC MODE
Burst=300mVp-p
IC200-40
REC MODE
Burst=300mVp-p
REC Y
RF OUT
REC C
RF OUT
9
13
SUB
PRE/EMPHA
MAIN
EMPHASIS
55
NORMAL
PASS
HI8
450nsec
DELAY
56
AGC
44
COLOR
KILLER
DELAY
EQ
1.3M
LPF
40
Y/C SEPARATE IN
S-JACK Y
CAM Y
REC OSD
VOB
REC OSD
VOW
PB'H'
VTR/CAM
S-JACK C
CAM'C'

Fig. 50

2 REC RF EQ

Y-FM and C-FM signal output from pin 9 and 11 of IC701 is passed through REC EQ and then optimum signal are mixed.

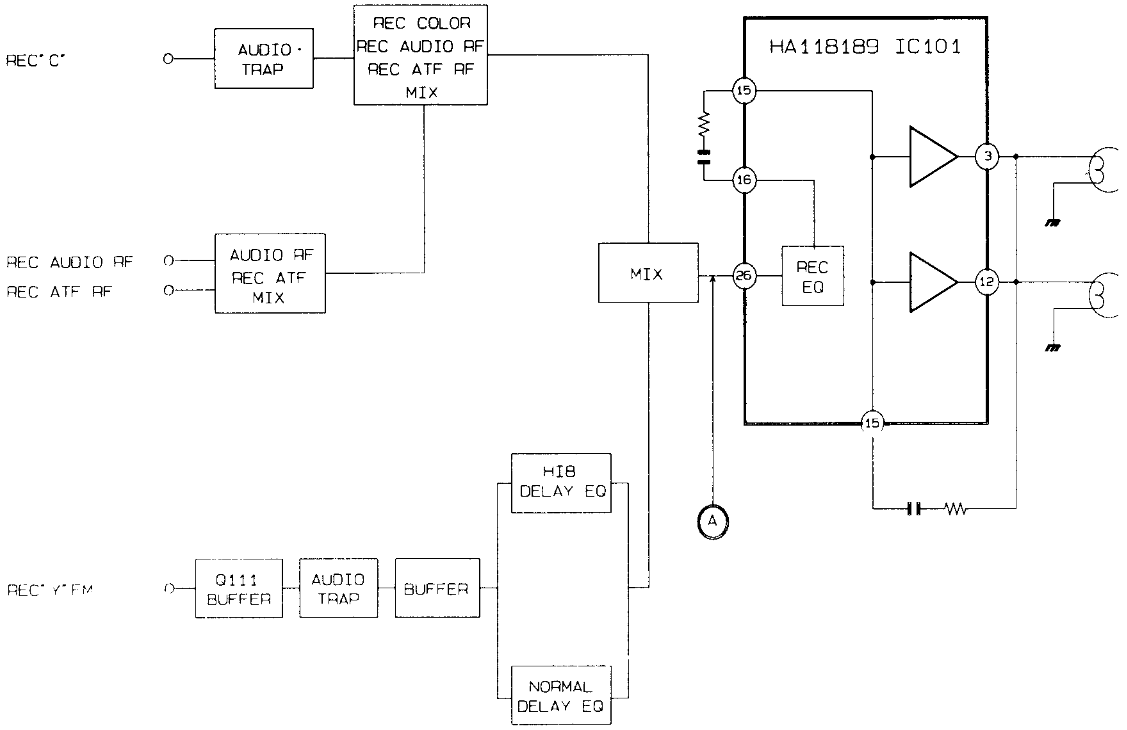
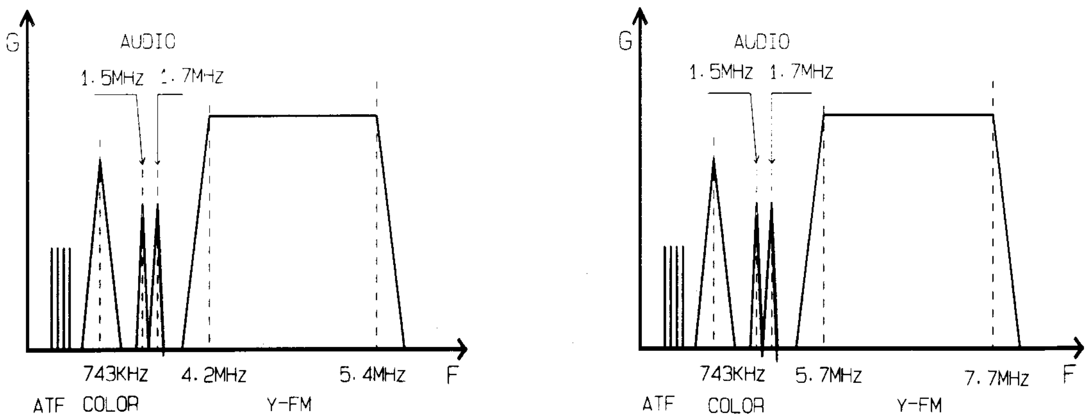

REC' C'
AUDIO TRAP
REC COLOR
REC AUDIO RF
REC ATF RF
MIX
HA118189 IC101
15
16
26
3
12
15
REC EQ
MIX
REC AUDIO RF
REC ATF RF
AUDIO RF
REC ATF
MIX
HI8
DELAY EQ
A
REC' Y' FM
Q111
BUFFER
AUDIO
TRAP
BUFFER
NORMAL
DELAY EQ

Fig. 51

At this time the frequency spectrum of A point in fig. 29 is as follows.



NORMAL MODE

Hi-8 MODE

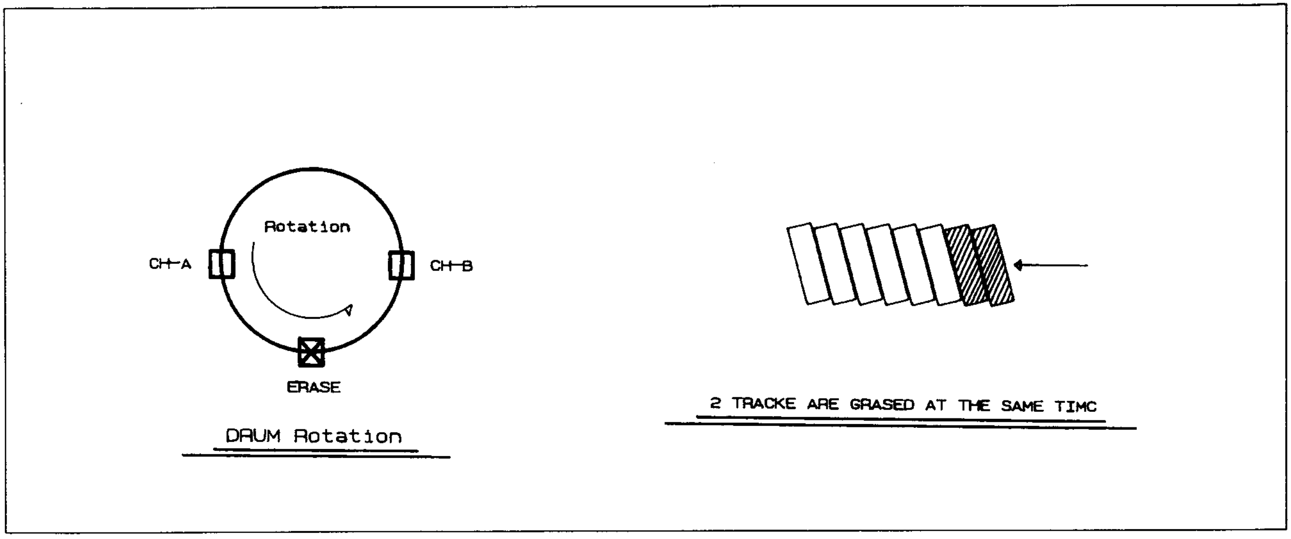
Fig. 52

These 4 kinds of signal are passed through REC EQ of IC101, V-1 modulator, REC amp, rotary transformer and applied to video head.

1) Rotary transformer

It is consisted of 3CH consttuction and the rotation ratio between head side and stator side is 3 : 5 during play back.

Erase head : CH B : RF S/W pulse (-) side
CH A : RF S/W pulse (+) side



DRUM Rotation

2 TRACKE ARE GRASED AT THE SAME TIMC

Fig. 53

2) video head

2 video heads (width : 20.5um)
1 video heads (width : 40 um)

Erase head is operated by rotation type to erase simultaneously 2 tracks but is not operated by fixed type.

2-5 Audio

2-5-1 Record system

1 Input selection

There are two kinds of audio input, line input and mic input, which are input to pin 26/35 and pin 27/34 respectively. In line input, only 1 channel is connected to RCA jack (R channel is connected) and audio signal becomes mono (1.5MHz) signal. The selection of line and mic input signal is controlled by serial control signal at pin 69, 70 of IC701 and the selected is input to ALC.

2 ALC circuit

ALC circuit is theat output of ALC amp is detected by ALC DET and ALC amp is controlled by feedback DC voltage proportioned input signal to control too largh input signal to constant value . The time constant of ALC is determined by C at pin 30 of IC701.

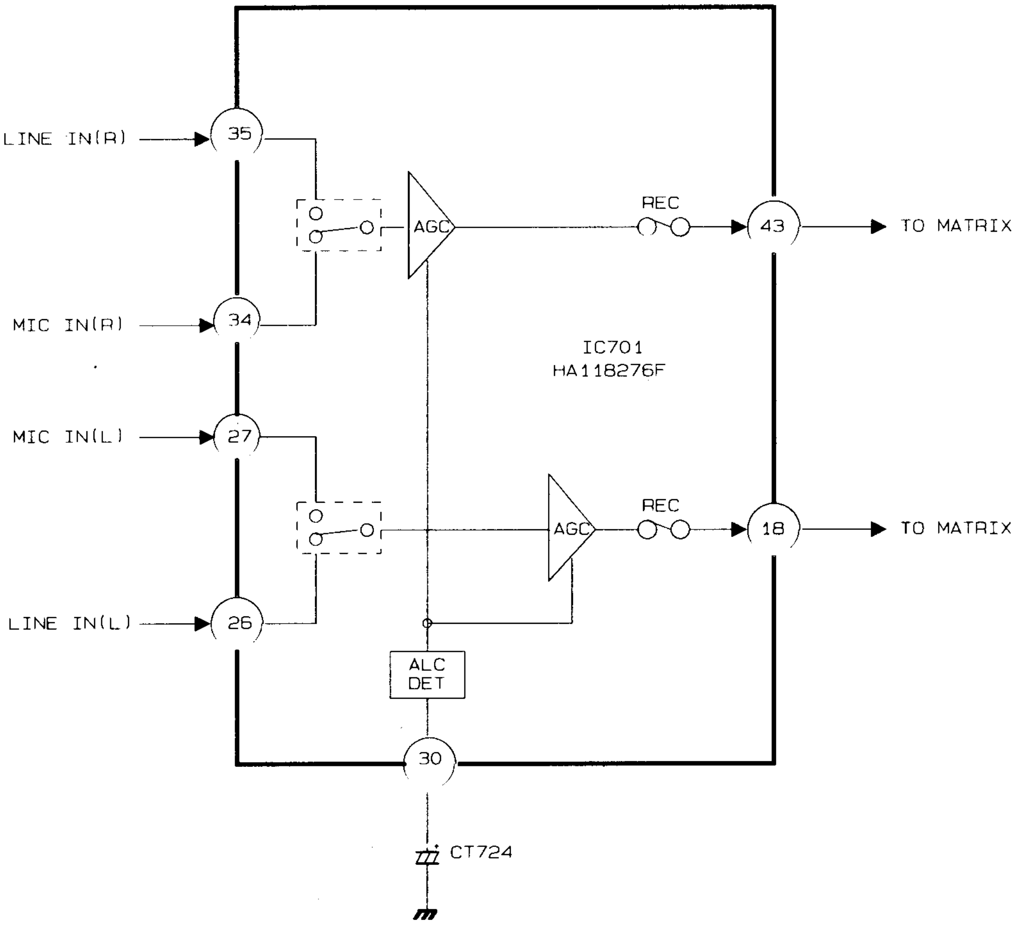

LINE IN(R)
35
MIC IN(R)
34
MIC IN(L)
27
LINE IN(L)
26
AGC
REC
43
TO MATRIX
IC701
HA118276F
AGC
REC
18
TO MATRIX
ALC DET
30
CT724

Fig. 54

3 REC matrix circuit

The signal output from pin 18 and 43 is input again to pin 19 and 42 of IC701 and is performed matrix operration. After matrix operation L + R and L - R signal is output at pin 22 and 39. The signal not passed matrix are passed through line amps and are output to pin 24 and 37 as line output and earphone output.

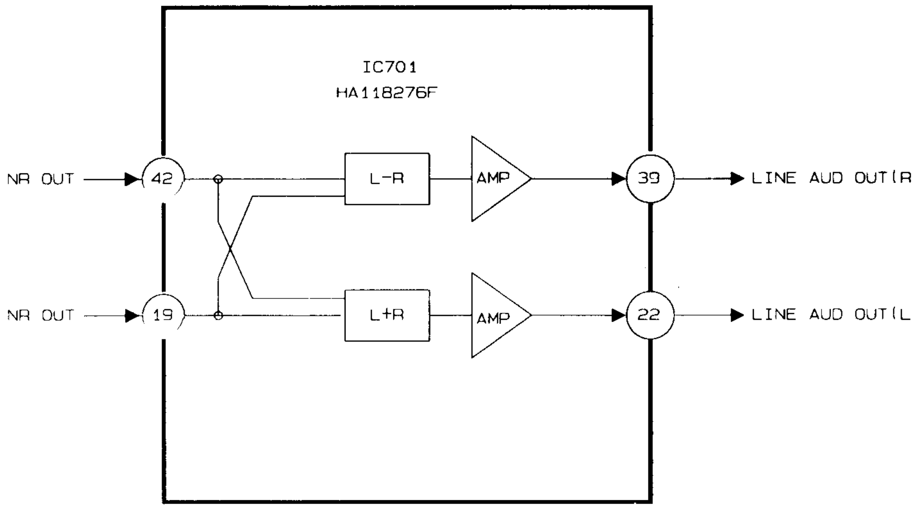

IC701
HA118276F
NR OUT
42
NR OUT
19
L−R
L+R
AMP
AMP
39
22
LINE AUD OUT(R)
LINE AUD OUT(L)

Fig. 55

4 Noise reduction circuit

The signal input at pin 21 of IC701 IS passed through LPF and is input to MOA(Main OP Mmp) of NR. When the negative feedback loop of MOA has emphasis circuit to attenuate high frequency region, the output of MOA is received pre-emphasis operation to increase high frequency region. Since the output is decreased by VCA (Voltage Control Amp) to increase feedback amount related rarge input level and increased by decreasing feed back amout related amall input level, qynamic range of audio signal is compressed. When audio signal having high frequency portion s input, gain of VCA is increased by weighting. Then emphasis 2 is deliminated emphasis amount is restrained to prevent from too increasing of pre-emphasis. Weighting and emphasis 2 are 1-dimens ion negative characteristic filter which is located in IC. The transient response of NR is determined by C at pin 14 and 15. Attack time and recorvery time are determined by pin 15 and 46 and hold time is determined by pin 14 and 47.

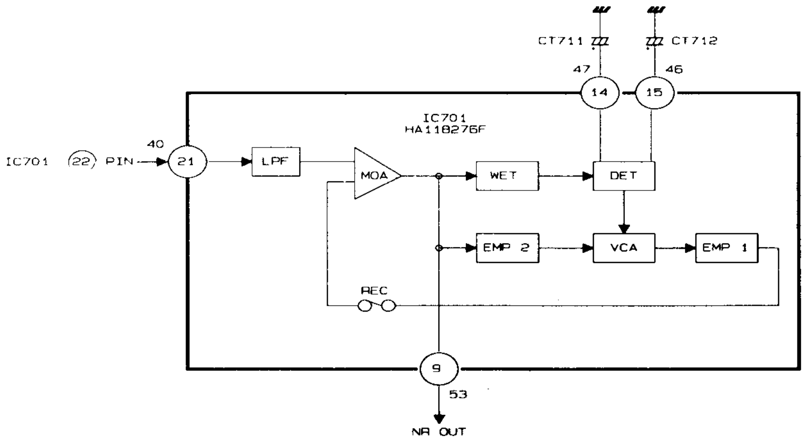

CT711
CT712
47
46
14
15
IC701
HA118276F
IC701 (22) PIN
40
21
LPF
MOA
WET
DET
EMP 2
VCA
EMP 1
REC
9
53
NR OUT

Fig. 56

5 VCO (Voltage Control Oscillator) circuit

After being input to pin 8 of IC701 and being passed through R/P switch and Limiter, the output of NR becomes FM modulation wave to be passed LPF. Then this wave is mixd with 1.5MHz and 1.7MHz and is output to pin 74. The gain of VCA is to adjust DC voltage of pin 4 and 58 and the modulation sensitivity (frequency deviation amount) is determined.

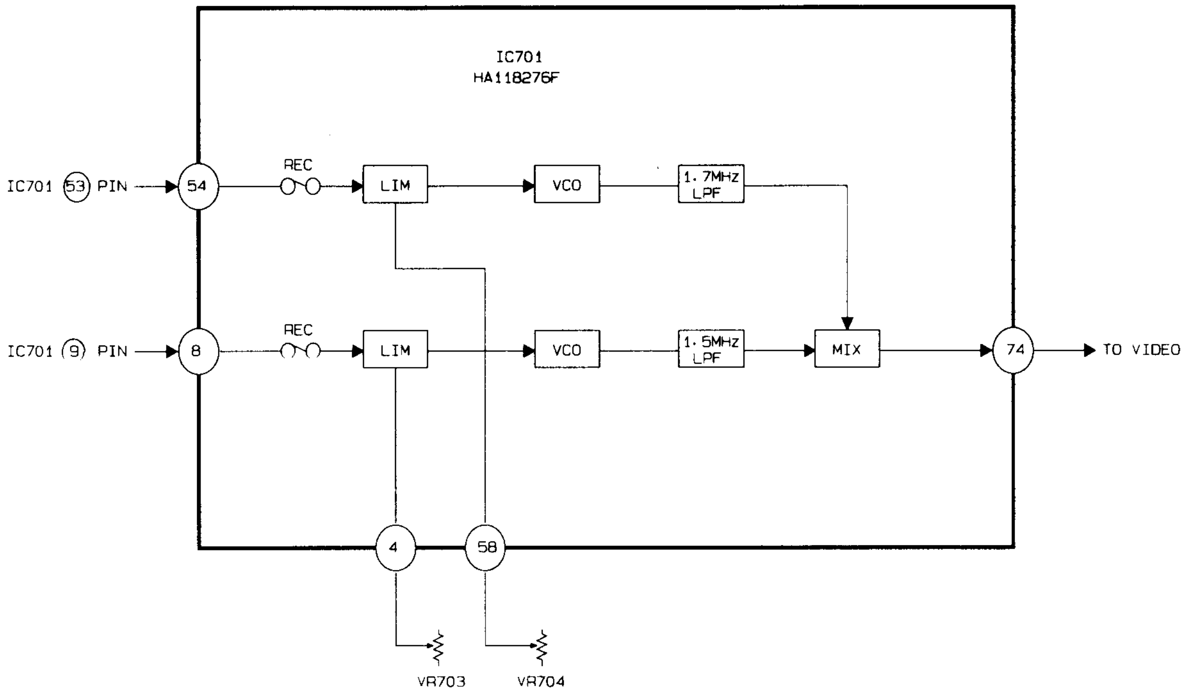

IC701
HA118276F
IC701 ㊸ PIN
54
REC
LIM
VCO
1.7MHz LPF
IC701 ⑨ PIN
8
REC
LIM
VCO
1.5MHz LPF
MIX
74
TO VIDEO
4
58
VR703
VR704

Fig. 57

2-5-2 Playback system

1 BPF/Limit

RF signal detected from video heads is amplified at the pre amp consisted of Q701 and is input to BPF FL70 and FL702. 1.5MHz and 1.7MHz audio FM signal are detected by FL701 and are input to pin 79 and 63. The input signal are deliminated AM portion at Limit and are applied to FM demodulator which is consited of PLL and VCO used at FM modulator in record mode. after FM audio signal and VCO output to comp of phase comparator, these signal is become demodulation audio signal.

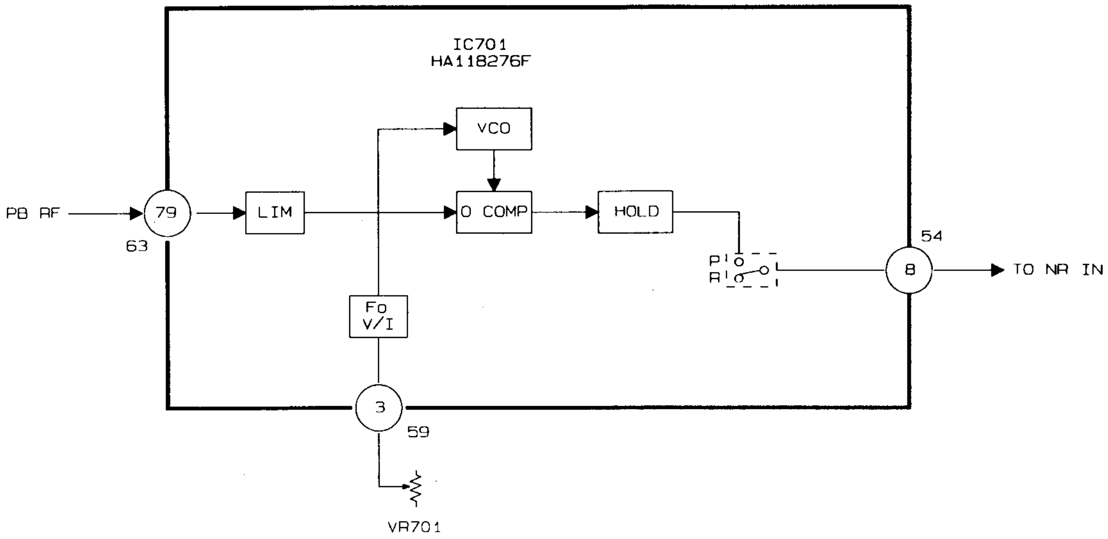

IC701
HA118276F
VCO
PB RF
79
63
LIM
O COMP
HOLD
P
R
54
8
TO NR IN
Fo
V/I
3
59
VR701

Fig. 58

2 NR (Noise Reduction) circuit (PB)

The signal input to pin 9 is passed through R/P switch looks like PB and is input MOA of reduction. In playback MOA is simply buffer circuit and record emphasis circuit and VCA circuit of loop is open loop to do deemphasis as opposite function of record mode.

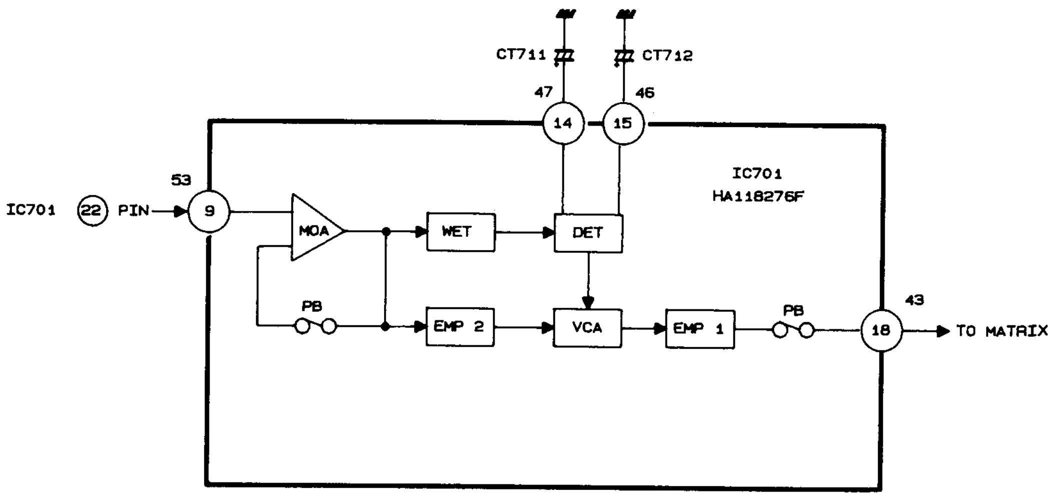

CT711
CT712
47
46
14
15
IC701
HA118276F
53
IC701
22
PIN
9
MOA
WET
DET
PB
EMP 2
VCA
EMP 1
PB
43
18
TO MATRIX

Fig. 59

3 PB matrix circuit and output circuit

The output of noise reductio is passed through R/P switch to perform matrix process. L signal is divided by matri process from L + R signal and L - R signal, is passed through line amp and is output to line output.

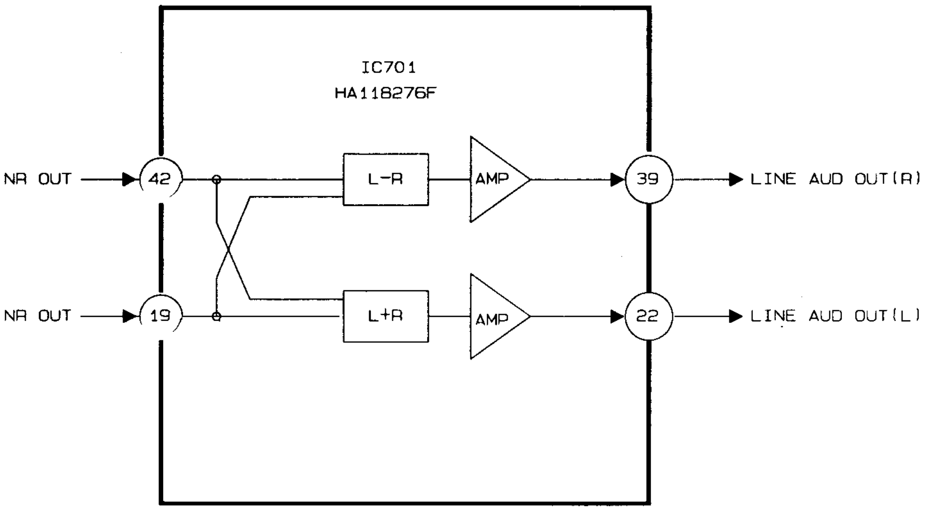

IC701
HA118276F
NR OUT
42
L-R
AMP
39
LINE AUD OUT(R)
NR OUT
19
L+R
AMP
22
LINE AUD OUT(L)

Fig. 60

2-5-3 Camera signal

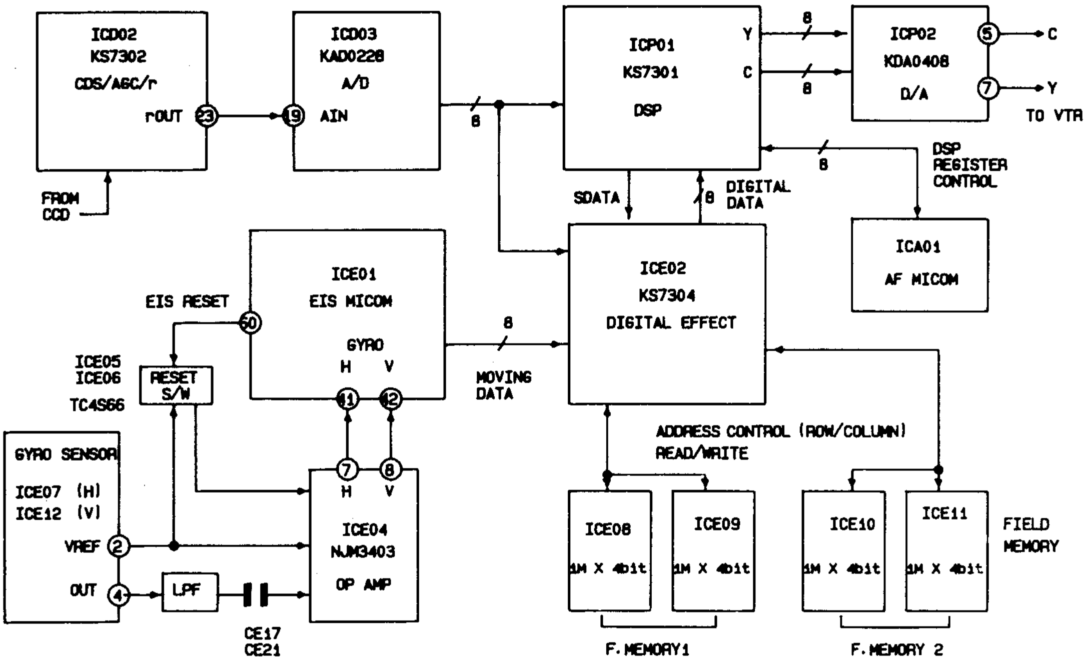

ICD02
KS7302
CDS/AGC/r
rOUT
23
FROM CCD
ICD03
KAD0228
A/D
19
AIN
8
ICP01
KS7301
DSP
Y
C
8
8
ICP02
KDA0408
D/A
5
7
C
Y
TO VTR
8
DSP REGISTER CONTROL
SDATA
8
DIGITAL DATA
ICA01
AF MICOM
ICE01
EIS MICOM
GYRO
H
V
41
42
EIS RESET
60
ICE05
ICE06
TC4S66
RESET S/W
8
MOVING DATA
ICE02
KS7304
DIGITAL EFFECT
GYRO SENSOR
ICE07 (H)
ICE12 (V)
VREF
2
OUT
4
LPF
CE17
CE21
7
8
H
V
ICE04
NJM3403
OP AMP
ADDRESS CONTROL (ROW/COLUMN)
READ/WRITE
ICE08
1M X 4bit
ICE09
1M X 4bit
ICE10
1M X 4bit
ICE11
1M X 4bit
F.MEMORY1
F.MEMORY 2
FIELD MEMORY

Fig. 61

< VP-H68 Only>

The other one is used for digital effect.
It is inputed to pin 1-8 of ICE02(KS7304; Digital effect LSI), and writed to field memory. Field memory is consist of two 1M X 4bit dram memory (have 4 data I/O lines). KA7304 takes information about digital effect by S data line pin 87 (from pin 133 of DSP). And KS7304 reconstructs the digital effect data by control the field memory (read/write, row/column address control). And it is outputed to pin 74~82 , and inputed to pin 152 - 160 of DSP (ICP01:KS7301).

EIS(Electronic image stabilization)-The Compensation of hand-tremblig.
GYRO sensor (ICE07, ICE12) output reference voltage (Vref = about DC 2.3V) from pin 2, and sensor-out from pin 4 on the Vref (about 0.2V+/- Vref). Sensor-out is passed through LPF (0.05-15Hz), and DC cut by non-polar condensor(CE17, CE21), and then spplied to OP amp(ICE04). In here, sensor-out by hand-treblig is ampliferd about 100 times (0V - 5Vp-p). This output from pin 7, 8 for ICE04, inputed to pin 11, 12 of EIS micom (ICE01) calculates the moving data (moving direction and value) of horizental drection and vertial direction. The moving data is outputed to pin 62~70 of ICE02 (KS730). And KS7304 compensates the hand-trembling by field memory control.

SAMSUNG

8mm CAMCORDER

VP-H65

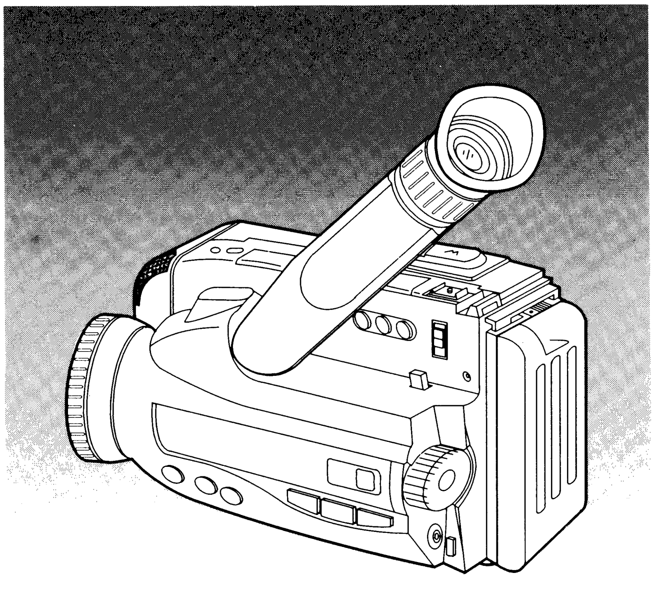
Hi 8

SERVICE Manual

◈ The difference of VP-H66 & VP-H65.
  * E.V.F is used for Model VP-H65.
  * C.V.F is used for Model VP-H66.

◈ Please refer to the VP-H66 Service Manual (Part No. : 64739-0059-00) for other informations which are not included in this Service Manual.

8mm CAMCORDER



CONTENTS

1. Specification
2. E.V.F Disassembly
3. Electrical Parts List
4. Exploded View & Parts List
5. E.V.F Adjustment
6. P.C.Boards
7. Schematic Diagrams

1. SPECIFICATIONS

Specifications are subject to change without notice.

Operation	Description
SYSTEM	
Recording systems	Video : 2 rotary heads, helical FM scanning Audio : FM system
Video signal	PAL colour, CCIR standard
Cassette format	8 mm/ Hi 8 mm
Tape speed	SP mode (Standard Play) : approx. 20.051 mm/sec. LP mode (Long Play) : approx. 10.026 mm/sec.
Playback time	SP mode (Standard Play) : 1 hour 30 minutes (P5-90) LP mode (Long Play) : 3 hours (P5-90)
Fast-forward/rewind time	Approx. 5 min. 40 secs (P5-60)
Image device	CCD (Charge Coupled Device)
Viewfinder	Block and white electronic viewfinder
Lens	Combined 12X power zoom lens; f=5.4 ~ 64.8mm, F1.8 with auto wide macro; filter diameter 46mm
Automatic focus system	Inner
Colour temperature	Auto/indoors : 3100° K; outdoor : 5100° K
Lighting	> 300 lux (28 footcandles); minimum lighting : 3 lux
Aperture correction	Automatic with back light adjustment
INPUT/OUTPUT CONNECTORS	
Video output	Phono jack/S-VIDEO jack, 1 Vp-p, 75 ohms, unbalanced, sync negative
Audio output	Phone jack, 7.5 dBs for an output impedance of less than 2.2 Kohms
RFU DC OUT	Special mini-jack, 5V DC
Earphone output	Minijack, 8 ohms
GENERAL	
Power requirement	AC power adaptor (7.5 V); battery pack (6.0 V)
Power consumption	6.7W (in Camera mode)
Tripod attachment thread	Attachment screw less than 9mm long
Microphone	Electric condensor microphone, omni-directional, stereo type
Temperature range	Operating : 0° C to 40° C (32° F to 104° F); storage : -20° C to 60° C (-4° F to 140° F)
Dimensions/weight	Approx. 109X109X210 mm; approx. 750 g excluding battery pack and cassette

2. E.V.F DISASSEMBLY

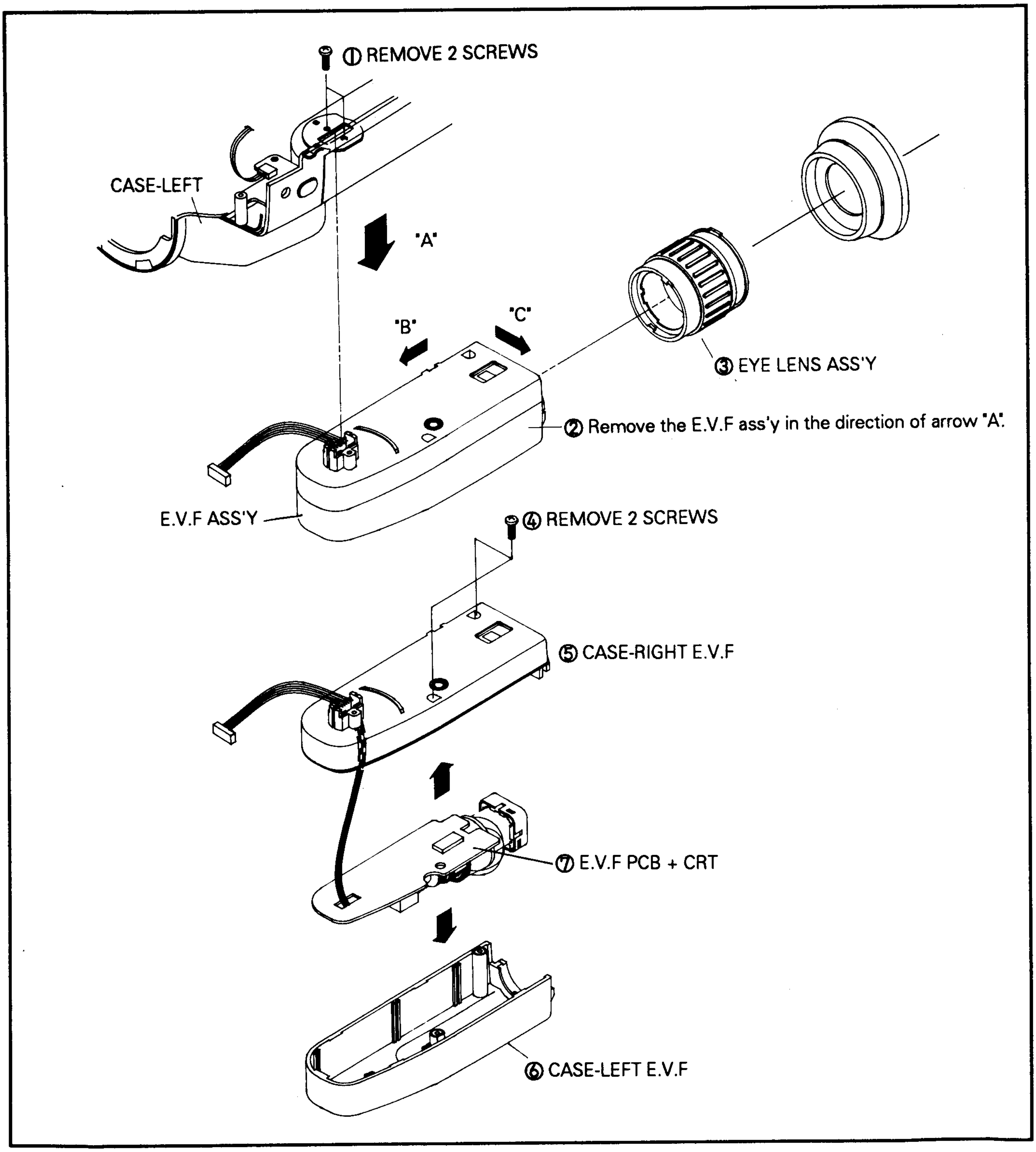

① REMOVE 2 SCREWS
CASE-LEFT
"A"
"B"
"C"
③ EYE LENS ASS'Y
② Remove the E.V.F ass'y in the direction of arrow "A".
E.V.F ASS'Y
④ REMOVE 2 SCREWS
⑤ CASE-RIGHT E.V.F
⑦ E.V.F PCB + CRT
⑥ CASE-LEFT E.V.F

Fig. 1 E.V.F Ass'y Removel

3. ELECTRICAL PARTS LIST

Loca. No	Part No	Description & Specification	Remark
173	69063-214-964	ASSY DC/DC BOARD	
C902	B1100-0674	C-CERAMIC,CHIP;CK 73 Y5V 16V T 685-Z C3225	
C904	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
C906	B1100-0674	C-CERAMIC,CHIP;CK 73 Y5V 16V T 685-Z C3225	
C907	61454-154-222	C-CERAMIC CHIP;1608 B1H 222KT	
C908	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C909	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C910	61454-154-222	C-CERAMIC CHIP;1608 B1H 222KT	
C911	61454-154-682	C-CERAMIC CHIP;C1608 B1H 682KT	
C916	B1100-0752	C-CERAMIC,CHIP;CK 73 Y5V 25V T 105-Z C3216 C3216Y5	
C917	B1100-0752	C-CERAMIC,CHIP;CK 73 Y5V 25V T 105-Z C3216 C3216Y5	
C918	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
C919	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C920	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C921	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C923	61454-158-473	C-CERAMIC CHIP;C1608 JB1C 473KT	
C926	61454-154-821	C-CERAMIC CHIP;C1608JB1H 821KT	
C927	61454-153-820	C-CERAMIC CHIP;C1608 CH1H820JT	
C932	61454-153-181	C-CERAMIC CHIP;C1608 CH1H181JT	
C933	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
C936	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C937	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
C941	B1100-0674	C-CERAMIC,CHIP;CK 73 Y5V 16V T 685-Z C3225	
C942	61454-153-820	C-CERAMIC CHIP;C1608 CH1H820JT	
C943	61454-154-821	C-CERAMIC CHIP;C1608JB1H 821KT	
C944	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
C947	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C948	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
C949	61454-154-682	C-CERAMIC CHIP;C1608 B1H 682KT	
C951	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C952	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C953	A1106-0016	C-TANTALUM,CHIP;CS 10V T 106-M C3528 SCS1A106MR-B	
CE914	61619-911-229	C-ELEC.CHIP;UWX1H2R2 MCR2GB PI3 2.2U/50V	
CE915	61619-911-229	C-ELEC.CHIP;UWX1H2R2 MCR2GB PI3 2.2U/50V	
CN901	B6012-0245	CONNECTOR-HOUSING;52588-4090 WHT MOLEX	
CN902	B6010-0893	CONNECTOR-HOUSING;SD-52357-0691 WHT	
CT901	A1106-0016	C-TANTALUM,CHIP;CS 10V T 106-M C3528 SCS1A106MR-B	
CT902	A1106-0016	C-TANTALUM,CHIP;CS 10V T 106-M C3528 SCS1A106MR-B	
CT912	A1106-0149	C-TANTALUM,CHIP;CS 10V T 475-M C3216	
CT922	A1106-0025	C-TANTALUM,CHIP;CS 20V T 105-M C3216 SCS1D105MR-A	
CT924	A1106-0025	C-TANTALUM,CHIP;CS 20V T 105-M C3216 SCS1D105MR-A	
CT925	A1106-0025	C-TANTALUM,CHIP;CS 20V T 105-M C3216 SCS1D105MR-A	
CT929	A1106-0016	C-TANTALUM,CHIP;CS 10V T 106-M C3528 SCS1A106MR-B	
CT930	A1106-0150	C-TANTALUM,CHIP;CS 6.3V T 226-M C3528 SCS0J226MR-B	
CT931	A1106-0150	C-TANTALUM,CHIP;CS 6.3V T 226-M C3528 SCS0J226MR-B	
CT932	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
CT935	A1106-0016	C-TANTALUM,CHIP;CS 10V T 106-M C3528 SCS1A106MR-B	
CT939	A1106-0016	C-TANTALUM,CHIP;CS 10V T 106-M C3528 SCS1A106MR-B	
CT940	A1106-0016	C-TANTALUM,CHIP;CS 10V T 106-M C3528 SCS1A106MR-B	
CT945	A1106-0150	C-TANTALUM,CHIP;CS 6.3V T 226-M C3528 SCS0J226MR-B	
CT946	A1106-0016	C-TANTALUM,CHIP;CS 10V T 106-M C3528 SCS1A106MR-B	
D901	62169-106-011	DIODE-ZENER.CHIP;RD-12M T1B	
D903	62169-901-077	DIODE.CHIP;MA110-(TX)	
D904	62169-901-103	DIODE CHIP;IMN10(T108)	
D905	A4114-0013	DIODE-ARRAY,CHIP;DA204K(T146) 20V 10MA 4.0NS 20V C	
D906	A4114-0013	DIODE-ARRAY,CHIP;DA204K(T146) 20V 10MA 4.0NS 20V C	
D907	B4112-0022	DIODE-SCHOTTKY,CHIP;EC10QS04-TE12R 40V 1A T	

Loca. No	Part No	Description & Specification	Remark
IC901	B4008-0969	IC-S/W REGU;TL1455C 5CH DIP	
L901	B1160-0013	INDUCTOR,CHIP;1UH-M 73 NLC322522T-1R0M C3225	
L902	B1160-0013	INDUCTOR,CHIP;1UH-M 73 NLC322522T-1R0M C3225	
L903	B1160-0013	INDUCTOR,CHIP;1UH-M 73 NLC322522T-1R0M C3225	
L904	B1160-0018	INDUCTOR,CHIP;3.3UH-M 73 NLC322522T-3R3M C3225	
L906	B1160-0066	INDUCTOR,CHIP;8R2UH-K T NLC453232T-8R2K C4532 T	
L909	B1160-0019	INDUCTOR,CHIP;330UH-K 73 NLC322522T-331K C3225	
L910	B1160-0019	INDUCTOR,CHIP;330UH-K 73 NLC322522T-331K C3225	
L911	B1160-0019	INDUCTOR,CHIP;330UH-K 73 NLC322522T-331K C3225	
L912	B1160-0018	INDUCTOR,CHIP;3.3UH-M 73 NLC322522T-3R3M C3225	
L913	B1144-0053	COIL-CHIP;CHOKE SLF7032T-220MR96 22UH-M T 0.96A	
L914	B1144-0055	COIL-CHIP;CHOKE SLF7032T-221MR31 220UH-M T 0.31A	
L915	B1144-0055	COIL-CHIP;CHOKE SLF7032T-221MR31 220UH-M T 0.31A	
L916	B1144-0023	COIL-CHIP;CHOKE 646CY-220M(22UH) 22UH-M T	
L917	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
L918	B1160-0018	INDUCTOR,CHIP;3.3UH-M 73 NLC322522T-3R3M C3225	
L919	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
L920	B1160-0018	INDUCTOR,CHIP;3.3UH-M 73 NLC322522T-3R3M C3225	
L921	B1160-0018	INDUCTOR,CHIP;3.3UH-M 73 NLC322522T-3R3M C3225	
L922	B1160-0018	INDUCTOR,CHIP;3.3UH-M 73 NLC322522T-3R3M C3225	
L923	B1160-0066	INDUCTOR,CHIP;8R2UH-K T NLC453232T-8R2K C4532 T	
L925	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
L926	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
L927	B1144-0055	COIL-CHIP;CHOKE SLF7032T-221MR31 220UH-M T 0.31A	
PS901	B3065-0167	FUSE;FSF 125V 2.0A 6.1MM UL/CSA 451002 C	⚠
PS902	B3065-0167	FUSE;FSF 125V 2.0A 6.1MM UL/CSA 451002 C	⚠
Q901	A4050-0128	TR-GENERAL,CHIP;DTC124EU(T106) 200MW 100MA 250MHZ	
Q903	A4050-0128	TR-GENERAL,CHIP;DTC124EU(T106) 200MW 100MA 250MHZ	
Q904	62129-304-014	TRANSISTOR-CHIP;IMB2(T110)	
Q907	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q908	A4050-0128	TR-GENERAL,CHIP;DTC124EU(T106) 200MW 100MA 250MHZ	
Q909	62129-304-014	TRANSISTOR-CHIP;IMB2(T110)	
Q910	A4050-0098	TR-GENERAL,CHIP;2SB1302 1.3W 5A 320MHZ 25V SI/PNP	
Q911	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q912	B4056-0032	TR-SWITCHING;FP101 1.3W 150MHZ SI/PNP T	
Q913	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q914	B4056-0032	TR-SWITCHING;FP101 1.3W 150MHZ SI/PNP T	
Q915	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q916	62129-301-120	TRANSISTOR.CHIP;2SB 1121(REEL)T-TC	
Q917	B4056-0031	TR-SWITCHING;FP102 1.3W 400MHZ SI/PNP T	
Q918	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q919	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
R901	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R902	61079-918-822	R-CHIP;RH C1608 CS 822-J	
R903	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R904	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R905	61079-918-124	R-CHIP;RH C1608 CS 124-J	
R906	B1020-0699	R-CHIP;RH 1/16 CS 472-D C1608 RR0816P-472-D	
R907	B1020-0699	R-CHIP;RH 1/16 CS 472-D C1608 RR0816P-472-D	
R908	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R909	61079-918-124	R-CHIP;RH C1608 CS 124-J	
R910	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R911	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R912	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R913	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R914	61079-918-124	R-CHIP;RH C1608 CS 124-J	
R915	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R918	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R919	61079-918-223	R-CHIP;RH C1608 CS 223-J	

Loca. No	Part No	Description & Specification	Remark
R920	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R921	61079-918-221	R-CHIP;RH C1608 CS 221-J	
R922	A1020-0430	R-CHIP;RH 1/16 CS 203-J C1608 RMC 1/16 20K-J	
R923	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R924	61079-917-331	R-CHIP;RH C2012 CS 331-J	
R925	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R926	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R929	B1020-0701	R-CHIP;RH 1/16 CS 822-D C1608 RR0816P-822-D	
R930	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R931	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R932	61079-917-681	R-CHIP;RH C2012 CS 681-J	
R933	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R934	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R939	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R940	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R941	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R942	61079-917-681	R-CHIP;RH C2012 CS 681-J	
R943	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R944	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R945	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R946	61079-918-822	R-CHIP;RH C1608 CS 822-J	
R947	61079-917-102	R-CHIP;RH C2012 CS 102-J	
R948	A1020-0430	R-CHIP;RH 1/16 CS 203-J C1608 RMC 1/16 20K-J	
R949	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R950	61079-917-471	R-CHIP;RH C2012 CS 471-J	
R951	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R952	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R953	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R954	61079-918-181	R-CHIP;RH C1608 CS 181-J	
R962	61079-217-000	R-CHIP;RH C3216 CS 000-J	
SW901	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
T901	67189-0040-00	CONVERTER-COIL;CMS64 6319-JPS-010	⚠
VR901	B1056-0044	VR-SEMI CHIP;EVM1SSX50B13 1KB CERMET	
VR902	B1056-0044	VR-SEMI CHIP;EVM1SSX50B13 1KB CERMET	
164	**69063-214-723**	**ASSY VCR MAIN BOARD**	
SYSTEM CONTROL/SERVO PARTS			
C501	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C502	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C503	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C504	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
C505	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C506	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C507	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C508	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C509	61454-158-473	C-CERAMIC CHIP;C1608 JB1C 473KT	
C510	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C511	61454-158-473	C-CERAMIC CHIP;C1608 JB1C 473KT	
C512	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C513	61454-154-682	C-CERAMIC CHIP;C1608 B1H 682KT	
C514	61454-153-391	C-CERAMIC CHIP;C1608 JB1H 391KT	
C515	A1106-0150	C-TANTALUM,CHIP;CS 6.3V T 226-M C3528 SCS0J226MR-B	
C520	61454-158-473	C-CERAMIC CHIP;C1608 JB1C 473KT	
C521	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C522	B1100-0779	C-CERAMIC-CHIP;CK 73 Y5V 16V T 334-Z C1608 GRM39Y5	
C523	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C524	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C525	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C526	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C527	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C529	A1106-0064	C-TANTALUM,CHIP;CS 10V T 475-M C3528 SCN1A475MR-B	

Loca. No	Part No	Description & Specification	Remark
C530	A1100-0046	C-CERAMIC,CHIP;CK 73 Y5V 50V T 224-Z C3216 31F 224	
C531	A1100-0046	C-CERAMIC,CHIP;CK 73 Y5V 50V T 224-Z C3216 31F 224	
C532	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C533	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C534	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
C535	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
C536	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
C537	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C538	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C539	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C540	61454-154-561	C-CERAMIC CHIP;C1608 B1H 561KT	
C541	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C542	A1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012 C2012Y5	
C544	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C545	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C546	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C547	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C548	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
C549	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C550	61454-154-682	C-CERAMIC CHIP;C1608 B1H 682KT	
C561	61454-154-561	C-CERAMIC CHIP;C1608 B1H 561KT	
C562	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C563	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C570	61454-154-561	C-CERAMIC CHIP;C1608 B1H 561KT	
C571	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C580	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
C581	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C601	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C602	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C603	A1106-0127	C-TANTALUM,CHIP;CS 6.3V T 107-M C7343	
C604	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C605	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C606	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C607	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C608	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C609	61454-153-330	C-CERAMIC CHIP;C1608 CH1H330JT	
C610	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C611	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C613	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C615	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C616	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
C617	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
C618	61454-154-561	C-CERAMIC CHIP;C1608 B1H 561KT	
C619	61454-154-561	C-CERAMIC CHIP;C1608 B1H 561KT	
C620	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C633	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C634	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C635	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C641	61454-154-222	C-CERAMIC CHIP;1608 B1H 222KT	
C643	A1106-0071	C-TANTALUM,CHIP;CS 16V T 105-M C3216 SCN1C105MR-A	
C649	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C650	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C651	61454-154-561	C-CERAMIC CHIP;C1608 B1H 561KT	
C652	61454-154-561	C-CERAMIC CHIP;C1608 B1H 561KT	
C656	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C672	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C673	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C680	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
CN601	B6010-1558	CONNECTOR-WAFER;SD-53268-0891 WHT MOLEX	

Loca. No	Part No	Description & Specification	Remark
CN602	B6010-1557	CONNECTOR-WAFER;SD-53309-4091 WHT MOLEX	
CN603	B6012-0247	CONNECTOR-HOUSING;5-175635-4 BLK AMP	
CN604	B6012-0197	CONNECTOR-HOUSING;SD-52465-1491 WHT	
CTP01	B6012-0230	CONNECTOR-HOUSING;52357-1691 WHT	
IC501	A4004-0197	IC-LOGIC;KA8322 QFP	
IC502	B4008-0916	IC-DRIVE;TPIC1327DF SOP	
IC503	B4008-0870	IC;LB1851M QFP	
IC504	B4004-0198	IC-LOGIC;BA6285FS SOP	
IC505	B4012-0455	IC-LINEAR;CXA1512N SSOP BULK MOTOR SENSE AMP	
IC506	B4008-1128	IC-OP AMP;TA75S01F(TE85L) QFP	
IC601	67199-0330-00	MICOM;CXP80732-161Q VP-H66 QFP SONY	
IC602	B4008-1038	IC;S-8420BF-T1 SOP	
L601	B1160-0010	INDUCTOR-CHIP;100UH-K 73 NLC322522T-101K C3225	
L602	B1160-0010	INDUCTOR-CHIP;100UH-K 73 NLC322522T-101K C3225	
L603	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
Q601	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q602	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q603	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q604	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q605	A4050-0131	TR-GENERAL,CHIP;DTC114EU(T106) 200MW 100M 250MHZ 5	
Q611	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
R503	61079-918-154	R-CHIP;RH C1608 CS 154-J	
R509	61079-918-474	R-CHIP;RH C1608 CS 474-J	
R510	61079-918-474	R-CHIP;RH C1608 CS 474-J	
R511	61079-918-393	R-CHIP;RH C1608 CS 393-J	
R512	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R513	61079-918-684	R-CHIP;RH C1608 CS 684-J	
R514	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R515	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R516	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R518	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R519	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R520	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R522	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R523	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R524	61079-918-224	R-CHIP;RH C1608 CS 224-J	
R525	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R527	61079-918-394	R-CHIP;RH C1608 CS 394-J	
R528	61079-918-334	R-CHIP;RH C1608 CS 334-J	
R529	A1020-0679	R-CHIP;RH 1/16 CS 823-F C1608	
R530	61079-918-153	R-CHIP;RH C1608 CS 153-J	
R531	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R532	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R533	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R534	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R535	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R536	61079-918-392	R-CHIP;RH C1608 CS 392-J	
R537	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R538	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R539	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R540	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R541	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R542	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R543	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R544	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R545	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R546	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R547	61079-916-333	R-CHIP;RH C2012 CS 333-F	
R548	61079-916-122	R-CHIP;RH C2012 CS 122-F	

Loca. No	Part No	Description & Specification	Remark
R549	61079-918-331	R-CHIP;RH C1608 CS 331-J	
R550	61079-917-010	R-CHIP;RH C2012 CS 010-J	
R551	61079-917-010	R-CHIP;RH C2012 CS 010-J	
R552	61079-917-010	R-CHIP;RH C2012 CS 010-J	
R553	61079-917-010	R-CHIP;RH C2012 CS 010-J	
R554	61079-918-292	R-CHIP;RH C1608 CS 2R2-J	
R555	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R557	61079-918-105	R-CHIP;RH C1608 CS 105-J	
R559	61079-918-292	R-CHIP;RH C1608 CS 2R2-J	
R560	61079-918-292	R-CHIP;RH C1608 CS 2R2-J	
R561	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R562	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R563	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R564	61079-918-823	R-CHIP;RH C1608 CS 823-J	
R565	A1020-0661	R-CHIP;RH 1/16 CS 563-F C1608	
R566	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R568	61079-918-105	R-CHIP;RH C1608 CS 105-J	
R578	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R579	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R580	61079-918-123	R-CHIP;RH C1608 CS 123-J	
R581	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R582	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R583	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R584	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R585	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R586	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R587	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R592	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R593	61079-918-332	R-CHIP;RH C1608 CS 332-J	
R594	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R601	61079-916-334	R-CHIP;RH C2012 CS 334-F	
R602	A1020-0363	R-CHIP;RH 1/10 CS 153-F C2012 MCR/RMC	
R603	61079-916-334	R-CHIP;RH C2012 CS 334-F	
R604	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R605	61079-918-332	R-CHIP;RH C1608 CS 332-J	
R606	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R607	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R608	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R609	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R610	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R613	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R614	61079-918-331	R-CHIP;RH C1608 CS 331-J	
R616	B1020-0712	R-CHIP;RH 1/16 CS 153-D C1608 RR0816P-153-D	
R617	B1020-0703	R-CHIP;RH 1/16 CS 333-D C1608 RR0816P-333-D	
R618	B1020-0714	R-CHIP;RH 1/16 CS 223-D C1608 RR0816P-223-D	
R619	B1020-0705	R-CHIP;RH 1/16 CS 104-D C1608 RR0816R-104-D	
R620	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R622	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R630	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R631	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R638	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R639	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R640	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R641	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R642	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R643	61079-918-391	R-CHIP;RH C1608 CS 391-J	
R645	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R646	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R647	A1020-0593	R-CHIP;RH 1/16 CS 104-F C1608	

Loca. No	Part No	Description & Specification	Remark
R648	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R650	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R651	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R652	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R653	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R655	61079-217-101	R-CHIP;RH C3216 CS 101-J	
R656	61079-918-332	R-CHIP;RH C1608 CS 332-J	
R660	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R661	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R662	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R663	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R664	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R665	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R666	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R667	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R668	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R671	B1020-0714	R-CHIP;RH 1/16 CS 223-D C1608 RR0816P-223-D	
R672	A1020-0453	R-CHIP;RH 1/16 CS 243-J C1608 RMC 1/16 24K-J	
R673	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R674	61079-918-105	R-CHIP;RH C1608 CS 105-J	
R675	61079-918-393	R-CHIP;RH C1608 CS 393-J	
R680	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R681	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R682	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R688	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R691	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R693	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R695	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R697	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RM601	B1018-0042	R-NETWORK;RN 1/16 FV 8P 104-J MNR14-E0-100K-J 3216	
RM605	B1018-0041	R-NETWORK,CHIP;RN 1/16 FV 8P 103-J MNR14-E0-10K-J	
RM606	B1018-0042	R-NETWORK;RN 1/16 FV 8P 104-J MNR14-E0-100K-J 3216	
SW601	B3018-0041	SW-TACT,CHIP;EVQ-QH9-03W 6.2X6.8MM YEL 1KEY	
SW602	B3018-0041	SW-TACT,CHIP;EVQ-QH9-03W 6.2X6.8MM YEL 1KEY	
SW603	B3018-0041	SW-TACT,CHIP;EVQ-QH9-03W 6.2X6.8MM YEL 1KEY	
SW604	B3006-0025	SW-SLIDE;2C3P SH 2.5V SSSS2-S-012	
VR601	B1056-0046	VR-SEMI CHIP;EVM1SSX50B15 100KB CERMET	
VR602	B1056-0053	VR-SEMI CHIP;EVM1SSX50B55 500KB CERMET	
XT601	64539-021-009	CRYSTAL;32.768KHZ	
XT602	B1280-0101	CRYSTAL;11.71875MHZ CX-49F 50PPM	
VIDEO PARTS			
C201	61454-153-121	C-CERAMIC CHIP;C1608 CH1H121JT	
C202	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
C203	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C204	61454-153-221	C-CERAMIC CHIP;C1608 CH1H221JT	
C205	61454-153-181	C-CERAMIC CHIP;C1608 CH1H181JT	
C206	61454-153-151	C-CERAMIC CHIP;C1608 CH1H151JT	
C208	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C209	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C210	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C212	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C213	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C214	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C215	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C216	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C217	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C218	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C219	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C220	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	

Loca. No	Part No	Description & Specification	Remark
C221	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C222	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C223	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C224	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C225	A1100-0776	C-CERAMIC,CHIP;CK 73 Y5V 16V T 224-Z C1608 C1608Y5	
C226	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C227	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C228	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
C229	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C230	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C232	61454-153-121	C-CERAMIC CHIP;C1608 CH1H121JT	
C233	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C234	61454-157-473	C-CERAMIC CHIP;C1608 JF1C 473ZT	
C235	A1100-0676	C-CERAMIC,CHIP;CK 73 Y5V 16V T 474-Z C2012 2012 JF	
C236	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C237	61454-153-390	C-CERAMIC CHIP;C1608 CH1H390JT	
C238	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C239	A1100-0869	C-CERAMIC,CHIP;CK 73 X7R 50V T 682-K C2012 CL21B68	
C240	A1100-0776	C-CERAMIC,CHIP;CK 73 Y5V 16V T 224-Z C1608 C1608Y5	
C241	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C242	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C244	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C245	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
C246	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C260	61454-153-270	C-CERAMIC CHIP;C1608 CH1H270JT	
C261	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C264	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C265	61454-153-150	C-CERAMIC CHIP;C1608 CH1H150JT	
C266	A1100-0676	C-CERAMIC,CHIP;CK 73 Y5V 16V T 474-Z C2012 2012 JF	
C267	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C268	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C269	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C300	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C301	61454-153-271	C-CERAMIC CHIP;C1608 CH1H271JT	
C302	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C303	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C304	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C305	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C306	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C307	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C308	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C310	61454-153-180	C-CERAMIC CHIP;C1608 CH1H180JT	
C311	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C350	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C351	61454-153-390	C-CERAMIC CHIP;C1608 CH1H390JT	
C352	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C353	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C354	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C355	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
C356	61454-153-560	C-CERAMIC CHIP;C1608 CH1H560JT	
C357	61454-153-391	C-CERAMIC CHIP;C1608 JB1H 391KT	
C358	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C359	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C360	61454-153-111	C-CERAMIC CHIP;C1608 CH1H111JT	
C361	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C400	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
C401	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
C405	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C450	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	

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C451	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C452	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C453	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C454	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C455	61454-153-180	C-CERAMIC CHIP;C1608 CH1H180JT	
C456	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C457	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C458	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C459	61454-153-820	C-CERAMIC CHIP;C1608 CH1H820JT	
C460	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C461	61454-153-680	C-CERAMIC CHIP;C1608 CH1H680JT	
C462	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C463	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C464	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C465	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C466	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C467	61454-153-050	C-CERAMIC CHIP;C1608 CH1H050CT	
C468	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C469	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CE200	A1106-0071	C-TANTALUM,CHIP;CS 16V T 105-M C3216 SCN1C105MR-A	
CE201	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE202	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE203	A1106-0149	C-TANTALUM,CHIP;CS 10V T 475-M C3216	
CE204	A1106-0149	C-TANTALUM,CHIP;CS 10V T 475-M C3216	
CE205	A1106-0149	C-TANTALUM,CHIP;CS 10V T 475-M C3216	
CE206	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE207	A1106-0149	C-TANTALUM,CHIP;CS 10V T 475-M C3216	
CE208	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
CE209	A1106-0107	C-TANTALUM,CHIP;CS 35V T 224-M C3216 SCS1V 224MR-A	
CE210	A1106-0148	C-TANTALUM,CHIP;CS 10V T 335-M C3216 SCS1A335MR-A	
CE211	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
CE212	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE300	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE301	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE302	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE303	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE304	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE305	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE306	61454-242-221	C-ELEC.CHIP;ECE-V0GA221P	
CE307	61454-242-221	C-ELEC.CHIP;ECE-V0GA221P	
CE308	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE309	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE310	A1106-0127	C-TANTALUM,CHIP;CS 6.3V T 107-M C7343	
CE311	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE315	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
CE350	A1106-0051	C-TANTALUM,CHIP;CS 6.3V T 225-M C3216 SCN0J225MR	
CE351	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE400	A1106-0127	C-TANTALUM,CHIP;CS 6.3V T 107-M C7343	
CE450	A1106-0148	C-TANTALUM,CHIP;CS 10V T 335-M C3216 SCS1A335MR-A	
CE451	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CE453	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CN300	B6013-0044	CONNECTOR-FPC;52085-1180 BRN REEL	
CN301	B6012-0062	CONNECTOR-HOUSING;5-175631-0 WHT	
CN303	B6013-0046	CONNECTOR-FPC;52085-0480 BRN REEL	
CN304	B6010-0728	CONNECTOR-WAFER;CGP4705-0101 GRY CHIP	
CTP02	B6012-0230	CONNECTOR-HOUSING;52357-1691 WHT	
D300	A4114-0011	DIODE-ARRAY,CHIP;DAN202U(T106) 80V 100MA 4.0NS 80V	
D301	A4114-0011	DIODE-ARRAY,CHIP;DAN202U(T106) 80V 100MA 4.0NS 80V	
D350	62169-901-077	DIODE.CHIP;MA110-(TX)	

Loca. No	Part No	Description & Specification	Remark
D400	62169-901-077	DIODE.CHIP;MA110-(TX)	
D401	62169-901-077	DIODE.CHIP;MA110-(TX)	
FL201	B1242-0024	FILTER-LC,CHIP;DELAY 250NS 629ENK-1084 T 5.1X5.2	
FL202	B1242-0023	FILTER-LC,CHIP;LPF 5.6MHZ 629LLN-1064 T 5.1X5.2	
FL203	64529-632-106	FILTER CHIP;A353BCH-K5058ESAR	
FL203	A1242-0007	FILTER-LC,CHIP;TR A485BCH-K7010=P3 4.49MHZ PRINT T	
FL450	A1242-0021	FILTER-LC,CHIP;BPF 4.43MHZ H488BAI-K7022=P3 T 4.8X	
IC200	B4012-0394	IC-LINEAR;HA118192A QFP	
IC300	B4008-1215	IC;MM1024AF SOP 16P TAPE	
IC301	62119-701-126	IC-FP;NJM 2235M(TE1)	
IC302	B4012-0198	IC-LINEAR;NJM2249M SOP(TE1)	
IC303	62119-701-126	IC-FP;NJM 2235M(TE1)	
IC304	62119-701-126	IC-FP;NJM 2235M(TE1)	
IC350	B4008-1124	IC;M52358VP SOP	
IC400	B4008-1208	IC;BU6145FS QFP BULK	
IC402	B4008-1077	IC;NJM2406F SOP TAPE(TE1)	
IC450	B4014-0050	IC-CCD;CXL1506N VSOP	
IC451	B4008-1218	IC;MSM7403MS-K SOP 8P TAPE	
L202	62429-962-121	INDUCTOR-CHIP;NL322522T 121-J	
L203	62429-962-680	INDUCTOR CHIP;NL322522T 68-J	
L205	B1160-0012	INDUCTOR-CHIP;47UH-K 73 NLC322522T-470K C3225	
L206	62429-962-181	INDUCTOR-CHIP;NL322522T 181-J	
L207	B1160-0029	INDUCTOR,CHIP;8.2UH-J 73 NL252018T-8R2J C2520	
L208	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
L210	62429-962-180	INDUCTOR CHIP;NL322522T 18-J	
L215	62429-962-100	INDUCTOR-CHIP;NL322522T 100-J	
L216	B1160-0038	INDUCTOR,CHIP;470UH-J 73 NL322522T-471J C3225	
L217	B1160-0037	INDUCTOR,CHIP;330UH-J 73 NL322522T-331J C3225	
L300	B1160-0012	INDUCTOR-CHIP;47UH-K 73 NLC322522T-470K C3225	
L301	B1160-0010	INDUCTOR-CHIP;100UH-K 73 NLC322522T-101K C3225	
L315	B1160-0010	INDUCTOR-CHIP;100UH-K 73 NLC322522T-101K C3225	
L350	B1160-0010	INDUCTOR-CHIP;100UH-K 73 NLC322522T-101K C3225	
L401	B1160-0012	INDUCTOR-CHIP;47UH-K 73 NLC322522T-470K C3225	
L450	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
L451	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
L452	62429-962-680	INDUCTOR CHIP;NL322522T 68-J	
Q200	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q201	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q202	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q203	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q204	A4050-0122	TR-GENERAL,CHIP;2SA1576(T106) 200MW 100MA 140MHZ 5	
Q205	B4056-0044	TR-SWITCHING,CHIP;UMT2 200MW 1MHZ SI/PNP TR	
Q206	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q207	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q208	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q209	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q211	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q212	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q213	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q214	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q215	B4056-0048	TR-SWITCHING,CHIP;UMD3 200MW 1MHZ SI/PNP TR	
Q216	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q217	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q218	B4056-0044	TR-SWITCHING,CHIP;UMT2 200MW 1MHZ SI/PNP TR	
Q219	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q220	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
Q221	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q222	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q230	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	

Loca. No	Part No	Description & Specification	Remark
Q231	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q232	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q300	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q301	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q302	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q304	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q306	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q307	A4050-0122	TR-GENERAL,CHIP;2SA1576(T106) 200MW 100MA 140MHZ 5	
Q308	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q310	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q350	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q352	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
Q353	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q354	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q355	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q356	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q402	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q403	A4050-0122	TR-GENERAL,CHIP;2SA1576(T106) 200MW 100MA 140MHZ 5	
Q404	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q410	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q450	B4056-0044	TR-SWITCHING,CHIP;UMT2 200MW 1MHZ SI/PNP TR	
Q451	B4056-0046	TR-SWITCHING,CHIP;UMZ1 200MW 1MHZ SI/PNP TR	
Q452	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q453	62129-301-115	TRANSISTOR.CHIP;2SB 1119(REEL)T-TC	
Q454	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
R126	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R161	61079-918-332	R-CHIP;RH C1608 CS 332-J	
R201	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R202	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R203	61079-918-392	R-CHIP;RH C1608 CS 392-J	
R206	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R211	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R213	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R216	61079-918-123	R-CHIP;RH C1608 CS 123-J	
R217	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R218	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R219	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R220	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R221	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R222	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R223	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R224	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R226	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R228	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R229	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R230	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R231	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R232	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R233	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R234	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R235	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R237	61079-918-750	R-CHIP;RH C1608 CS 750-J	
R238	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R239	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R240	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R242	61079-918-391	R-CHIP;RH C1608 CS 391-J	
R243	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R244	61079-918-391	R-CHIP;RH C1608 CS 391-J	
R247	61079-918-472	R-CHIP;RH C1608 CS 472-J	

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R248	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R249	61079-918-683	R-CHIP;RH C1608 CS 683-J	
R251	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R252	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R253	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R254	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R255	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R256	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R257	61079-918-394	R-CHIP;RH C1608 CS 394-J	
R258	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R259	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R260	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R261	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R262	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R263	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R264	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R265	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R266	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R277	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R278	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R279	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R280	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R281	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R282	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R283	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R284	61079-918-153	R-CHIP;RH C1608 CS 153-J	
R285	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R286	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R287	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R288	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R290	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R291	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R292	61079-918-153	R-CHIP;RH C1608 CS 153-J	
R294	61079-918-682	R-CHIP;RH C1608 CS 682-J	
R296	61079-918-683	R-CHIP;RH C1608 CS 683-J	
R297	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R298	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R299	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R300	61079-918-224	R-CHIP;RH C1608 CS 224-J	
R301	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R303	61079-918-750	R-CHIP;RH C1608 CS 750-J	
R304	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R305	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R306	61079-918-331	R-CHIP;RH C1608 CS 331-J	
R309	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R311	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R312	61079-918-822	R-CHIP;RH C1608 CS 822-J	
R313	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R314	A1020-0430	R-CHIP;RH 1/16 CS 203-J C1608 RMC 1/16 20K-J	
R315	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R316	61079-918-750	R-CHIP;RH C1608 CS 750-J	
R317	61079-918-750	R-CHIP;RH C1608 CS 750-J	
R318	61079-918-271	R-CHIP;RH C1608 CS 271-J	
R319	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R320	61079-918-331	R-CHIP;RH C1608 CS 331-J	
R321	61079-918-105	R-CHIP;RH C1608 CS 105-J	
R325	61079-918-105	R-CHIP;RH C1608 CS 105-J	
R330	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R331	61079-918-122	R-CHIP;RH C1608 CS 122-J	

Loca. No	Part No	Description & Specification	Remark
R334	61079-918-105	R-CHIP;RH C1608 CS 105-J	
R338	61079-918-151	R-CHIP;RH C1608 CS 151-J	
R350	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R351	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R352	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R353	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R354	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R355	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R356	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R357	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R358	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R359	61079-918-330	R-CHIP;RH C1608 CS 330-J	
R360	61079-918-121	R-CHIP;RH C1608 CS 121-J	
R361	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R362	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R363	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R364	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R365	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R366	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R367	61079-918-332	R-CHIP;RH C1608 CS 332-J	
R368	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R369	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R370	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R371	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R372	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R400	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R401	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R402	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R404	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R405	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R406	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R407	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R408	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R409	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R410	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R411	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R414	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R415	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R417	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R418	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R419	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R420	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R421	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R423	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R424	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R425	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R426	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R430	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R443	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R450	61079-918-121	R-CHIP;RH C1608 CS 121-J	
R451	61079-918-823	R-CHIP;RH C1608 CS 823-J	
R452	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R454	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R456	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R457	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R458	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R459	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R460	61079-918-391	R-CHIP;RH C1608 CS 391-J	
R461	61079-918-393	R-CHIP;RH C1608 CS 393-J	

Loca. No	Part No	Description & Specification	Remark
R462	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R463	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R464	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R465	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R466	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R467	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R468	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R474	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R475	61079-918-391	R-CHIP;RH C1608 CS 391-J	
R476	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R477	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R478	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R480	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R481	61079-918-221	R-CHIP;RH C1608 CS 221-J	
VR202	B1056-0045	VR-SEMI CHIP;EVM1SSX50B14 10KB CERMET	
VR203	B1056-0045	VR-SEMI CHIP;EVM1SSX50B14 10KB CERMET	
VR204	B1056-0045	VR-SEMI CHIP;EVM1SSX50B14 10KB CERMET	
VR451	B1056-0052	VR-SEMI CHIP;EVM1SSX50B52 500B CERMET	
X201	B1280-0146	CRYSTAL;4.433619MHZ CX-49F 30PPM CHIP	
PRE-AMP PARTS			
C101	61454-153-390	C-CERAMIC CHIP;C1608 CH1H390JT	
C102	61454-153-330	C-CERAMIC CHIP;C1608 CH1H330JT	
C103	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C106	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C107	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C108	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C109	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C110	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C111	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C112	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C113	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C114	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C115	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C116	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
C118	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C119	61454-153-050	C-CERAMIC CHIP;C1608 CH1H050CT	
C120	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C121	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C122	61454-153-181	C-CERAMIC CHIP;C1608 CH1H181JT	
C123	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
C124	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C126	61454-153-390	C-CERAMIC CHIP;C1608 CH1H390JT	
C127	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C128	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C129	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C130	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C131	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
C132	61454-153-560	C-CERAMIC CHIP;C1608 CH1H560JT	
C133	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C134	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C135	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
C136	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C137	61454-153-271	C-CERAMIC CHIP;C1608 CH1H271JT	
C138	61454-153-390	C-CERAMIC CHIP;C1608 CH1H390JT	
C139	61454-154-272	C-CERAMIC CHIP;C1608 B1H 272JT	
C140	61454-153-750	C-CERAMIC CHIP;C1608 CH1H750JT	
C141	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C142	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C143	61454-153-390	C-CERAMIC CHIP;C1608 CH1H390JT	

Loca. No	Part No	Description & Specification	Remark
C144	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C145	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C146	61454-153-560	C-CERAMIC CHIP;C1608 CH1H560JT	
C147	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C148	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C149	61454-153-050	C-CERAMIC CHIP;C1608 CH1H050CT	
C150	61454-153-180	C-CERAMIC CHIP;C1608 CH1H180JT	
C151	61454-153-270	C-CERAMIC CHIP;C1608 CH1H270JT	
C152	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C153	61454-153-330	C-CERAMIC CHIP;C1608 CH1H330JT	
C160	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C162	61454-153-390	C-CERAMIC CHIP;C1608 CH1H390JT	
C163	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
CE101	A1106-0071	C-TANTALUM,CHIP;CS 16V T 105-M C3216 SCN1C105MR-A	
CE102	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
CE103	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
CE105	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
IC101	B4012-0393	IC-LINEAR;HA118189MPER-MSP QFP	
L101	62429-962-270	INDUCTOR CHIP;NL322522T 27-J	
L102	B1160-0010	INDUCTOR-CHIP;100UH-K 73 NLC322522T-101K C3225	
L103	B1160-0010	INDUCTOR-CHIP;100UH-K 73 NLC322522T-101K C3225	
L104	62429-962-279	INDUCTOR CHIP;NL322522T 2R7-J	
L105	B1160-0019	INDUCTOR,CHIP;330UH-K 73 NLC322522T-331K C3225	
L106	62429-962-102	INDUCTOR-CHIP;NL322522T 101-J	
L107	62429-962-689	INDUCTOR CHIP;NL322522T 6R8-J	
L108	62429-962-279	INDUCTOR CHIP;NL322522T 2R7-J	
L109	B1160-0037	INDUCTOR,CHIP;330UH-J 73 NL322522T-331J C3225	
L110	62429-962-181	INDUCTOR-CHIP;NL322522T 181-J	
L111	62429-962-220	INDUCTOR-CHIP;NL322522T 221-J	
L112	62429-962-471	INDUCTOR-CHIP;NL453232T 471-J	
L113	62429-962-152	INDUCTOR-CHIP;NL322522T 151-J	
L114	B1160-0030	INDUCTOR,CHIP;10UH-J 73 NL252018T-100J C2520	
L115	62429-962-339	INDUCTOR CHIP;NL322522T 3R3-J	
L116	62429-962-279	INDUCTOR CHIP;NL322522T 2R7-J	
L117	62429-962-100	INDUCTOR-CHIP;NL322522T 100-J	
L118	B1160-0010	INDUCTOR-CHIP;100UH-K 73 NLC322522T-101K C3225	
L119	62429-962-151	INDUCTOR-CHIP;NL322522T 150-J	
L121	B1160-0010	INDUCTOR-CHIP;100UH-K 73 NLC322522T-101K C3225	
L122	62429-962-220	INDUCTOR-CHIP;NL322522T 221-J	
Q101	B4056-0044	TR-SWITCHING,CHIP;UMT2 200MW 1MHZ SI/PNP TR	
Q106	B4056-0044	TR-SWITCHING,CHIP;UMT2 200MW 1MHZ SI/PNP TR	
Q107	B4056-0048	TR-SWITCHING,CHIP;UMD3 200MW 1MHZ SI/PNP TR	
Q108	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q109	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
Q110	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
Q111	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q112	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q114	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
Q115	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q116	B4056-0044	TR-SWITCHING,CHIP;UMT2 200MW 1MHZ SI/PNP TR	
Q117	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q119	A4050-0120	TR-GENERAL,CHIP;2SA1037K(T146) 200MW 100MA 140MHZ	
Q120	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q121	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
Q122	B4050-0145	TR-GENERAL,CHIP;UMH6HR 200MW 1A 1MHZ 50V SI/NPN TR	
Q123	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q124	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
Q125	B4056-0045	TR-SWITCHING,CHIP;UMX2 200MW 1MHZ SI/NPN TR	
Q126	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	

Loca. No	Part No	Description & Specification	Remark
Q127	B4056-0046	TR-SWITCHING,CHIP;UMZ1 200MW 1MHZ SI/PNP TR	
Q128	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q129	A4050-0120	TR-GENERAL,CHIP;2SA1037K(T146) 200MW 100MA 140MHZ	
Q130	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
R101	A1020-0575	R-CHIP;RH 1/16 CS 6R8-J C1608 RMC 1/16 6.8-J	
R102	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R103	61079-918-271	R-CHIP;RH C1608 CS 271-J	
R104	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R105	61079-918-683	R-CHIP;RH C1608 CS 683-J	
R109	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R110	61079-918-101	R-CHIP;RH C1608 CS 101-J	
R111	A1020-0573	R-CHIP;RH 1/16 CS 5R6-J C1608 RMC 1/16 5.6-J	
R112	A1020-0573	R-CHIP;RH 1/16 CS 5R6-J C1608 RMC 1/16 5.6-J	
R113	61079-918-101	R-CHIP;RH C1608 CS 101-J	
R114	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R115	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R116	61079-918-332	R-CHIP;RH C1608 CS 332-J	
R117	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R118	61079-918-824	R-CHIP;RH C1608 CS 824-J	
R119	61079-918-221	R-CHIP;RH C1608 CS 221-J	
R120	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R121	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R122	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R123	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R124	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R125	61079-918-273	R-CHIP;RH C1608 CS 273-J	
R127	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R128	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R129	61079-918-272	R-CHIP;RH C1608 CS 272-J	
R130	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R131	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R132	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R133	61079-918-391	R-CHIP;RH C1608 CS 391-J	
R134	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R135	61079-918-271	R-CHIP;RH C1608 CS 271-J	
R136	61079-918-820	R-CHIP;RH C1608 CS 820-J	
R137	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R139	61079-918-392	R-CHIP;RH C1608 CS 392-J	
R140	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R141	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R142	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R143	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R144	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R145	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R146	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R147	61079-918-271	R-CHIP;RH C1608 CS 271-J	
R148	61079-918-332	R-CHIP;RH C1608 CS 332-J	
R149	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R150	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R151	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R152	61079-918-392	R-CHIP;RH C1608 CS 392-J	
R153	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R154	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R155	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R156	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R157	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R158	61079-918-331	R-CHIP;RH C1608 CS 331-J	
R159	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R160	61079-918-561	R-CHIP;RH C1608 CS 561-J	

Loca. No	Part No	Description & Specification	Remark
R162	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R163	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R164	61079-918-683	R-CHIP;RH C1608 CS 683-J	
R165	61079-918-393	R-CHIP;RH C1608 CS 393-J	
R166	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R167	61079-918-181	R-CHIP;RH C1608 CS 181-J	
R168	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R169	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R170	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R171	61079-918-101	R-CHIP;RH C1608 CS 101-J	
R172	61079-918-151	R-CHIP;RH C1608 CS 151-J	
R173	61079-918-151	R-CHIP;RH C1608 CS 151-J	
R174	61079-918-151	R-CHIP;RH C1608 CS 151-J	
R175	61079-918-271	R-CHIP;RH C1608 CS 271-J	
R176	61079-918-181	R-CHIP;RH C1608 CS 181-J	
R177	61079-918-101	R-CHIP;RH C1608 CS 101-J	
R178	61079-918-221	R-CHIP;RH C1608 CS 221-J	
R179	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R180	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R181	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R182	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R183	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R184	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R185	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R186	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R187	61079-918-471	R-CHIP;RH C1608 CS 471-J	
R188	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R189	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R190	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R191	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R192	61079-918-562	R-CHIP;RH C1608 CS 562-J	
R193	61079-918-823	R-CHIP;RH C1608 CS 823-J	
R194	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R195	61079-918-472	R-CHIP;RH C1608 CS 472-J	
R196	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R197	61079-918-122	R-CHIP;RH C1608 CS 122-J	
R198	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R199	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R907	61079-918-561	R-CHIP;RH C1608 CS 561-J	
RP01	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP02	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP05	61079-918-473	R-CHIP;RH C1608 CS 473-J	
RP06	61079-918-472	R-CHIP;RH C1608 CS 472-J	
163	**69063-214-799**	**ASSY AUDIO BOARD;VP-H66 PAL**	
C701	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C703	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C705	A1100-0010	C-CERAMIC,CHIP;CK 73 X7R 50V T 102-K C2012 21B 102	
C706	A1100-0010	C-CERAMIC,CHIP;CK 73 X7R 50V T 102-K C2012 21B 102	
C707	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C708	61454-154-222	C-CERAMIC CHIP;1608 B1H 222KT	
C709	61454-154-152	C-CERAMIC CHIP;C1608 B1H 152KT	
C713	A1100-0010	C-CERAMIC,CHIP;CK 73 X7R 50V T 102-K C2012 21B 102	
C714	A1100-0010	C-CERAMIC,CHIP;CK 73 X7R 50V T 102-K C2012 21B 102	
C715	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C716	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C717	61454-154-471	C-CERAMIC CHIP;C1608 JB1H 471KT	
C719	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
C720	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C721	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	

Loca. No	Part No	Description & Specification	Remark
C722	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C723	61454-155-153	C-CERAMIC CHIP;C1608 B1H 153T-K	
C726	61454-155-153	C-CERAMIC CHIP;C1608 B1H 153T-K	
C727	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C728	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C729	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C731	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
C732	61454-154-471	C-CERAMIC CHIP;C1608 JB1H 471KT	
C733	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C734	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C735	A1100-0010	C-CERAMIC,CHIP;CK 73 X7R 50V T 102-K C2012 21B 102	
C736	A1100-0010	C-CERAMIC,CHIP;CK 73 X7R 50V T 102-K C2012 21B 102	
C740	61454-154-152	C-CERAMIC CHIP;C1608 B1H 152KT	
C741	61454-154-222	C-CERAMIC CHIP;1608 B1H 222KT	
C742	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C743	A1100-0010	C-CERAMIC,CHIP;CK 73 X7R 50V T 102-K C2012 21B 102	
C744	A1100-0010	C-CERAMIC,CHIP;CK 73 X7R 50V T 102-K C2012 21B 102	
C746	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C748	61454-155-223	C-CERAMIC CHIP;C1608 JB1C 223KT	
C750	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
C751	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C753	61454-153-221	C-CERAMIC CHIP;C1608 CH1H221JT	
C754	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C755	61454-153-221	C-CERAMIC CHIP;C1608 CH1H221JT	
C756	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C758	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C759	A1100-0833	C-CERAMIC,CHIP;CK 73 X7R 16V T 224-K C3216 C3216X7	
C760	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C762	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C763	61454-154-682	C-CERAMIC CHIP;C1608 B1H 682KT	
C764	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
CE765	A1106-0150	C-TANTALUM,CHIP;CS 6.3V T 226-M C3528 SCS0J226MR-B	
CE766	A1106-0150	C-TANTALUM,CHIP;CS 6.3V T 226-M C3528 SCS0J226MR-B	
CN701	B6010-1250	CONNECTOR-WAFER;53398-0890 WHT MOLEX	
CN703	B6010-0083	CONNECTOR-WAFER;5-175635-0 WHT	
CT702	A1106-0025	C-TANTALUM,CHIP;CS 20V T 105-M C3216 SCS1D105MR-A	
CT704	A1106-0025	C-TANTALUM,CHIP;CS 20V T 105-M C3216 SCS1D105MR-A	
CT710	A1106-0156	C-TANTALUM,CHIP;CS 6.3V T 336-M C6032 SCS0J336MR-C	
CT711	A1106-0020	C-TANTALUM,CHIP;CS 16V T 225-M C3216 SCS1C225MR-A	
CT712	A1106-0149	C-TANTALUM,CHIP;CS 10V T 475-M C3216	
CT718	A1106-0020	C-TANTALUM,CHIP;CS 16V T 225-M C3216 SCS1C225MR-A	
CT724	A1106-0149	C-TANTALUM,CHIP;CS 10V T 475-M C3216	
CT725	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CT730	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CT737	A1106-0149	C-TANTALUM,CHIP;CS 10V T 475-M C3216	
CT738	A1106-0020	C-TANTALUM,CHIP;CS 16V T 225-M C3216 SCS1C225MR-A	
CT739	A1106-0156	C-TANTALUM,CHIP;CS 6.3V T 336-M C6032 SCS0J336MR-C	
CT745	A1106-0025	C-TANTALUM,CHIP;CS 20V T 105-M C3216 SCS1D105MR-A	
CT747	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
CT749	A1106-0020	C-TANTALUM,CHIP;CS 16V T 225-M C3216 SCS1C225MR-A	
CT752	A1106-0035	C-TANTALUM,CHIP;CS 35V T 474-M C3216 SCS1V474MR-A	
CT757	A1106-0035	C-TANTALUM,CHIP;CS 35V T 474-M C3216 SCS1V474MR-A	
CT767	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
FL701	64529-632-116	FILTER-CHIP;TH356BTK-K5069YED=P1	
FL702	64529-632-115	FILTER-CHIP;TH356BTK-K5068YED=P1	
IC701	B4008-1006	IC;HA118276BF SOP	
IC702	62119-701-131	IC-FP;BU4053BCF SOP REEL	
L701	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
L702	B1160-0066	INDUCTOR,CHIP;8R2UH-K T NLC453232T-8R2K C4532 T	

Loca. No	Part No	Description & Specification	Remark
Q701	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q702	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q703	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
Q704	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
Q705	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q706	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
R701	61079-918-154	R-CHIP;RH C1608 CS 154-J	
R702	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R703	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R704	61079-918-563	R-CHIP;RH C1608 CS 563-J	
R705	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R706	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R707	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R708	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R709	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R710	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R711	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R712	61079-918-182	R-CHIP;RH C1608 CS 182-J	
R713	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R714	A1020-0430	R-CHIP;RH 1/16 CS 203-J C1608 RMC 1/16 20K-J	
R715	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R716	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R717	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R718	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R719	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R720	61079-918-123	R-CHIP;RH C1608 CS 123-J	
R721	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R722	61079-918-391	R-CHIP;RH C1608 CS 391-J	
R724	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R725	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R726	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R727	61079-918-271	R-CHIP;RH C1608 CS 271-J	
R728	61079-918-681	R-CHIP;RH C1608 CS 681-J	
R729	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R730	61079-918-102	R-CHIP;RH C1608 CS 102-J	
R731	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R732	61079-918-153	R-CHIP;RH C1608 CS 153-J	
R733	61079-918-473	R-CHIP;RH C1608 CS 473-J	
R734	61079-918-153	R-CHIP;RH C1608 CS 153-J	
R735	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R740	61079-918-680	R-CHIP;RH C1608 CS 680-J	
R742	61079-918-680	R-CHIP;RH C1608 CS 680-J	
R744	61079-918-154	R-CHIP;RH C1608 CS 154-J	
R745	61079-918-333	R-CHIP;RH C1608 CS 333-J	
R746	61079-918-242	R-CHIP;RH C1608 CS 242-J	
R747	B1020-0713	R-CHIP;RH 1/16 CS 123-D C1608 RR0816P-123-D	
R750	61079-918-154	R-CHIP;RH C1608 CS 154-J	
VR701	B1056-0048	VR-SEMI CHIP;EVM1SSX50B24 20KB CERMET	
VR702	B1056-0045	VR-SEMI CHIP;EVM1SSX50B14 10KB CERMET	
VR703	B1056-0051	VR-SEMI CHIP;EVM1SSX50B54 50KB CERMET	
VR704	B1056-0051	VR-SEMI CHIP;EVM1SSX50B54 50KB CERMET	
116	**69063-214-599**	**ASSY MIC BOARD**	
C802	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C803	61454-157-473	C-CERAMIC CHIP;C1608 JF1C 473ZT	
C804	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
C805	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C810	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C811	61454-157-473	C-CERAMIC CHIP;C1608 JF1C 473ZT	
C812	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	

Loca. No	Part No	Description & Specification	Remark
C813	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C820	61454-157-473	C-CERAMIC CHIP;C1608 JF1C 473ZT	
C821	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C822	61454-155-153	C-CERAMIC CHIP;C1608 B1H 153T-K	
C823	61454-157-333	C-CERAMIC CHIP;C1608 B1C 333T-K	
C824	61454-157-333	C-CERAMIC CHIP;C1608 B1C 333T-K	
C830	61454-157-473	C-CERAMIC CHIP;C1608 JF1C 473ZT	
C831	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C832	61454-155-153	C-CERAMIC CHIP;C1608 B1H 153T-K	
C833	61454-157-333	C-CERAMIC CHIP;C1608 B1C 333T-K	
C834	61454-157-333	C-CERAMIC CHIP;C1608 B1C 333T-K	
CN801	B6010-1250	CONNECTOR-WAFER;53398-0890 WHT MOLEX	
CN802	B6010-1249	CONNECTOR-WAFER;53398-0490 WHT MOLEX	
CN803	B6010-1249	CONNECTOR-WAFER;53398-0490 WHT MOLEX	
CT819	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
CT841	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
IC801	62119-701-129	IC-FP;LA7470M(TE-L)	
LD801	62309-110-340	LED;GL-3HD7/GL3HD8	
Q801	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
Q805	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	
R801	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R802	61079-918-154	R-CHIP;RH C1608 CS 154-J	
R803	61079-918-154	R-CHIP;RH C1608 CS 154-J	
R804	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R805	61079-918-822	R-CHIP;RH C1608 CS 822-J	
R814	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R815	61079-918-154	R-CHIP;RH C1608 CS 154-J	
R816	61079-918-154	R-CHIP;RH C1608 CS 154-J	
R817	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R818	61079-918-822	R-CHIP;RH C1608 CS 822-J	
R827	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R828	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R829	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R830	61079-918-563	R-CHIP;RH C1608 CS 563-J	
R831	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R837	61079-918-103	R-CHIP;RH C1608 CS 103-J	
R838	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R839	61079-918-223	R-CHIP;RH C1608 CS 223-J	
R840	61079-918-563	R-CHIP;RH C1608 CS 563-J	
R841	61079-918-183	R-CHIP;RH C1608 CS 183-J	
R847	61079-918-470	R-CHIP;RH C1608 CS 470-J	
R848	61079-918-561	R-CHIP;RH C1608 CS 561-J	
R849	61079-918-151	R-CHIP;RH C1608 CS 151-J	
R850	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R851	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R853	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R854	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R855	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R856	61079-918-152	R-CHIP;RH C1608 CS 152-J	
R860	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R861	61079-918-000	R-CHIP;RH C1608 CS 000-J	
R862	61079-918-222	R-CHIP;RH C1608 CS 222-J	
R863	61079-918-152	R-CHIP;RH C1608 CS 152-J	
RM801	B1294-0026	MODULE-REMOCON;GP1U901X 38KHZ 940 MESH	
130	**69063-214-699**	**ASSY LIGHT BOARD**	
CN966	66439-0086-00	CONNECTOR WIRE(ASSY);1571#28 1203-5903 3P 100MM	
132	**69063-214-698**	**ASSY FUNCTION ROTARY BOARD**	
CN964	B6010-1558	CONNECTOR-WAFER;SD-53268-0891 WHT MOLEX	
Q961	A4050-0121	TR-GENERAL,CHIP;2SC4081(T106) 200MW 100MA 180MHZ 5	

Loca. No	Part No	Description & Specification	Remark
R981	B1020-0712	R-CHIP;RH 1/16 CS 153-D C1608 RR0816P-153-D	
R982	B1020-0714	R-CHIP;RH 1/16 CS 223-D C1608 RR0816P-223-D	
R983	B1020-0703	R-CHIP;RH 1/16 CS 333-D C1608 RR0816P-333-D	
R984	B1020-0843	R-CHIP;RH 1/16 CS 563-D C1608 RR0816R-563-D	
R985	B1020-0844	R-CHIP;RH 1/16 CS 124-D C1608 RR0816R-124-D	
R986	B1020-0845	R-CHIP;RH 1/16 CS 334-D C1608 RR0816R-334-D	
R987	B1020-0705	R-CHIP;RH 1/16 CS 104-D C1608 RR0816R-104-D	
S981	B3012-0009	SW-ROTARY;1C9P 4.6MM NSH SRBQ49 0.1V16A	
136	**69063-214-696**	**ASSY FUNCTION VCR BOARD**	
CN961	B6012-0249	CONNECTOR-HOUSING;SD-52365-0891 WHT MOLEX	
R961	B1020-0712	R-CHIP;RH 1/16 CS 153-D C1608 RR0816P-153-D	
R962	B1020-0705	R-CHIP;RH 1/16 CS 104-D C1608 RR0816R-104-D	
R963	B1020-0714	R-CHIP;RH 1/16 CS 223-D C1608 RR0816P-223-D	
R964	B1020-0703	R-CHIP;RH 1/16 CS 333-D C1608 RR0816P-333-D	
R965	B1020-0843	R-CHIP;RH 1/16 CS 563-D C1608 RR0816R-563-D	
R966	B1020-0844	R-CHIP;RH 1/16 CS 124-D C1608 RR0816R-124-D	
R967	B1020-0712	R-CHIP;RH 1/16 CS 153-D C1608 RR0816P-153-D	
R968	B1020-0705	R-CHIP;RH 1/16 CS 104-D C1608 RR0816R-104-D	
R969	B1020-0714	R-CHIP;RH 1/16 CS 223-D C1608 RR0816P-223-D	
R970	B1020-0703	R-CHIP;RH 1/16 CS 333-D C1608 RR0816P-333-D	
R971	B1020-0843	R-CHIP;RH 1/16 CS 563-D C1608 RR0816R-563-D	
R972	B1020-0844	R-CHIP;RH 1/16 CS 124-D C1608 RR0816R-124-D	
R973	B1020-0845	R-CHIP;RH 1/16 CS 334-D C1608 RR0816R-334-D	
S961	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S962	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S963	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S964	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S965	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S970	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S971	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S972	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S973	B3006-0083	SW-SLIDE,CHIP;6C4P SH 5V HSW0882-510021 T	
131	**69063-214-697**	**ASSY FUNCTION CAM BOARD**	
B971	B1248-0008	FILTER-EMI,CHIP;HF70ACB201209T 10OHM 25% T 50V 201	
B972	B1248-0008	FILTER-EMI,CHIP;HF70ACB201209T 10OHM 25% T 50V 201	
B973	B1248-0008	FILTER-EMI,CHIP;HF70ACB201209T 10OHM 25% T 50V 201	
C944	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C945	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C946	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C947	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
C971	61454-154-561	C-CERAMIC CHIP;C1608 B1H 561KT	
C973	61454-154-561	C-CERAMIC CHIP;C1608 B1H 561KT	
C974	61454-154-561	C-CERAMIC CHIP;C1608 B1H 561KT	
CN962	B6010-1555	CONNECTOR-WAFER;4-175635-0 BLK AMP	
CN963	B6012-0249	CONNECTOR-HOUSING;SD-52365-0891 WHT MOLEX	
CN965	B6010-1708	CONNECTOR-WAFER;CGP4703-0101 YEL SMK 3PIN	
J903	63344-010-340	JACK EARPHONE;HSJ1715-01-110(STEREO)	
L944	62429-962-124	INDUCTOR-CHIP;NL322522T 1R0-K	
L945	62429-962-124	INDUCTOR-CHIP;NL322522T 1R0-K	
L946	62429-962-124	INDUCTOR-CHIP;NL322522T 1R0-K	
Q971	62129-101-173	TRANSISTOR.CHIP;KSR 1104(REEL)	
R974	B1020-0712	R-CHIP;RH 1/16 CS 153-D C1608 RR0816P-153-D	
R975	B1020-0705	R-CHIP;RH 1/16 CS 104-D C1608 RR0816R-104-D	
R976	B1020-0714	R-CHIP;RH 1/16 CS 223-D C1608 RR0816P-223-D	
R977	B1020-0703	R-CHIP;RH 1/16 CS 333-D C1608 RR0816P-333-D	
R978	B1020-0843	R-CHIP;RH 1/16 CS 563-D C1608 RR0816R-563-D	
R979	B1020-0844	R-CHIP;RH 1/16 CS 124-D C1608 RR0816R-124-D	
R980	B1020-0845	R-CHIP;RH 1/16 CS 334-D C1608 RR0816R-334-D	
S974	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	

Loca. No	Part No	Description & Specification	Remark
S975	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S976	B3018-0025	SW-TACT,CHIP;SKQGAF 6.4X5.2MM WHT 1KEY	
S977	B3018-0041	SW-TACT,CHIP;EVQ-QH9-03W 6.2X6.8MM YEL 1KEY	
S978	B3018-0041	SW-TACT,CHIP;EVQ-QH9-03W 6.2X6.8MM YEL 1KEY	
S979	B3018-0041	SW-TACT,CHIP;EVQ-QH9-03W 6.2X6.8MM YEL 1KEY	
115	**69063-214-692**	**ASSY MANUAL FOCUS BOARD**	
PI01	B4161-0025	PHOTO-INTERRUPTER;ON1004 CA	
PI02	B4161-0025	PHOTO-INTERRUPTER;ON1004 CA	
186	**69063-214-954**	**ASSY EVF BOARD**	
CL01	61454-153-121	C-CERAMIC CHIP;C1608 CH1H121JT	
CL02	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CL03	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
CL04	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CL05	A1106-0051	C-TANTALUM,CHIP;CS 6.3V T 225-M C3216 SCN0J225MR	
CL06	B1102-0156	C-FILM,CHIP;CQS 162 M 16V T 104-J ECWU1C104JA5	
CL07	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
CL08	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
CL09	A1106-0219	C-TANTALUM,CHIP;CS 16V T 106-M C6032 SCN1C106MR-C(	
CL10	A1100-0038	C-CERAMIC,CHIP;CC 73 COG 50V T 151-J C2012 21C151J	
CL11	61454-246-293	C-ELEC.CHIP;ECE-V1HA3R3R	
CL12	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CL13	61647-802-101	C-ELEC.;CEAP 6.3V 100M SE(2.5)	
CL14	61617-504-220	C-ELECTROLYTIC;OS COND 16SC 22M(M)	
CL15	61617-504-220	C-ELECTROLYTIC;OS COND 16SC 22M(M)	
CL16	61507-121-420	C-POLYESTER;CQ921M TAPG 50V 392-K	
CL17	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
CL18	61454-246-293	C-ELEC.CHIP;ECE-V1HA3R3R	
CL19	61407-100-331	C-CERAMIC;EK B 3A 331K 06 BS	
CNL01	B6010-0871	CONNECTOR-WAFER;53398-0590 WHT	
CNL02	B6010-1732	CONNECTOR-WAFER;CGP4504-0101 SMK	
CNL03	A3047-0014	SOCKET-CRT;SOCKET FINDER PI10 40MM	
DL02	62169-901-082	DIODE.CHIP;MA153-(TX)	
DL03	62169-901-043	DIODE.CHIP;MA151K-(TX)	
DL04	B4100-0033	DIODE-SW,CHIP;MA158-TX 200V 10NS T	
FTL01	B1201-0065	TRANS-FLYBACK;ECX-C2806D 0.6INCH 4.8V	
ICL01	A4012-0263	IC-LINEAR;KA7007 SOP	
LL01	B1160-0012	INDUCTOR-CHIP;47UH-K 73 NLC322522T-470K C3225	
LL02	B1160-0034	INDUCTOR,CHIP;82UH-J 73 NL252018T-820J C2520	
LL03	B1150-0011	COIL-LINEARITY;230UH-+-15% PI0.12 ELH-5L222	
QL01	A4050-0104	TR-GENERAL,CHIP;2SA1179 200MW 150MA 180MHZ 55V SI	
QL02	62129-301-172	TRANSISTOR.CHIP;2SD 968A-R/S(TX)	
QL03	A4050-0104	TR-GENERAL,CHIP;2SA1179 200MW 150MA 180MHZ 55V SI	
RL01	61079-918-105	R-CHIP;RH C1608 CS 105-J	
RL02	61079-917-338	R-CHIP;RH C2012 CS 330-J	
RL03	61079-917-472	R-CHIP;RH C2012 CS 472-J	
RL04	61079-917-474	R-CHIP;RH C2012 CS 474-J	
RL05	61079-917-823	R-CHIP;RH C2012 CS 823-J	
RL06	61079-917-473	R-CHIP;RH C2012 CS 473-J	
RL07	61079-917-339	R-CHIP;RH C2012 CS 3R3-J	
RL08	61079-917-101	R-CHIP;RH C2012 CS 101-J	
RL09	B1335-0002	THERMISTOR-CHIP;NTC CS 3216 3BH 471KC 470OHM/20DEG	
RL10	61079-917-182	R-CHIP;RH C2012 CS 182-J	
RL11	61079-917-272	R-CHIP;RH C2012 CS 272-J	
RL12	61079-917-512	R-CHIP;RH C2012 CS 512-J	
RL13	61079-917-102	R-CHIP;RH C2012 CS 102-J	
RL14	61079-917-823	R-CHIP;RH C2012 CS 823-J	
RL15	61079-917-822	R-CHIP;RH C2012 CS 822-J	
RL16	61079-917-393	R-CHIP;RH C2012 CS 393-J	
RL17	61079-917-561	R-CHIP;RH C2012 CS 561-J	

Loca. No	Part No	Description & Specification	Remark
RL18	61079-917-180	R-CHIP;RH C2012′CS 180-J	
RL19	61079-917-335	R-CHIP;RH C2012 CS 335-J	
RL20	61079-917-335	R-CHIP;RH C2012 CS 335-J	
RL21	61079-917-332	R-CHIP;RH C2012 CS 332-J	
RL22	61079-917-000	R-CHIP;RH C2012 CS 000-J	
RL23	61079-917-000	R-CHIP;RH C2012 CS 000-J	
RL24	61079-917-102	R-CHIP;RH C2012 CS 102-J	
RL25	61079-917-622	R-CHIP;RH C2012 CS 622-J	
RL26	61079-918-274	R-CHIP;RH C1608 CS 274-J	
RL27	61079-917-102	R-CHIP;RH C2012 CS 102-J	
RL30	61079-917-000	R-CHIP;RH C2012 CS 000-J	
VRL01	B1056-0051	VR-SEMI CHIP;EVM1SSX50B54 50KB CERMET	
VRL02	B1056-0054	VR-SEMI CHIP;EVM1SSX50BE2 220B CERMET	
VRL03	B1056-0062	VR-SEMI CHIP;EVM1DSX30B16 1MB CERMET	
161	**69063-214-727**	**ASSY CAM MAIN BOARD**	
A/F PARTS			
CA01	61619-908-011	C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V	
CA02	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
CA03	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
CA04	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA05	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA06	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA07	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA08	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA09	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
CA10	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA11	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA12	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA13	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA14	61454-154-472	C-CERAMIC CHIP;C1608 JB1H 472KT	
CA16	61454-154-332	C-CERAMIC CHIP;C1608 B1H 332KT	
CA17	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA18	61454-157-333	C-CERAMIC CHIP;C1608 B1C 333T-K	
CA19	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA20	61454-153-101	C-CERAMIC CHIP;C1608 CH1H101JT	
CA21	A1100-0675	C-CERAMIC,CHIP;CK 73 Y5V 16V T 225-Z C2012	
CA22	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA23	A1106-0153	C-TANTALUM,CHIP;CS 6.3V T 106-M C3216 SCS0J106MR-A	
CA24	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CA30	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA31	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R	
CA32	A1106-0150	C-TANTALUM,CHIP;CS 6.3V T 226-M C3528 SCS0J226MR-B	
CA33	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA35	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA36	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA38	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CA39	61454-243-471	C-ELEC.CHIP;ECE-V0JA470P	
CA50	61454-244-471	C-ELEC.CHIP;ECE-V1CA470P	
CA51	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA60	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA61	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA62	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA63	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA64	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA66	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA70	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CA71	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CA82	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CNA01	B6012-0247	CONNECTOR-HOUSING;5-175635-4 BLK AMP	

Loca. No	Part No	Description & Specification	Remark
CNA02	B6013-0048	CONNECTOR-FPC;04-6214-020-010-800 WHT	
DA01	62169-901-077	DIODE.CHIP;MA110-(TX)	
DA03	B4112-0020	DIODE-SCHOTTKY,CHIP;MA721WA 30V 200MA 30PF T	
DA04	B4112-0020	DIODE-SCHOTTKY,CHIP;MA721WA 30V 200MA 30PF T	
DA05	B4112-0020	DIODE-SCHOTTKY,CHIP;MA721WA 30V 200MA 30PF T	
DA06	B4112-0020	DIODE-SCHOTTKY,CHIP;MA721WA 30V 200MA 30PF T	
ICA01	67199-0079-00	IC-FP;UPD78P214GC-AB8 OTP	
ICA02	B4000-0053	IC-EEPROM;X24C01S-C7519 SOP	
ICA03	B4008-0983	IC;MB88346B VSOP	
ICA04	B4004-0041	IC-LOGIC;TB6504F SOP	
ICA05	B4004-0041	IC-LOGIC;TB6504F SOP	
ICA06	B4012-0262	IC-LINEAR;NJM3403AV SOP TAPE(TE1)	
ICA08	62119-402-030	IC-FP;NJM3414AM(TE3)	
LA01	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LA02	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LA03	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LA04	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LA05	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
QA01	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
QA02	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
QA03	A4050-0104	TR-GENERAL,CHIP;2SA1179 200MW 150MA 180MHZ 55V SI	
QA04	A4050-0123	TR-GENERAL,CHIP;DTA144EU(T108) 200MW 100MA 250MHZ	
QA06	A4050-0125	TR-GENERAL,CHIP;DTC144WK(T146) 200MW 100MA 250MHZ	
QA07	A4050-0125	TR-GENERAL,CHIP;DTC144WK(T146) 200MW 100MA 250MHZ	
QA08	B4050-0088	TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP	
QA09	B4050-0088	TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP	
QA10	B4050-0088	TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP	
QA11	B4050-0067	TR-GENERAL,CHIP;IMT1 1MA 5MA 20KHZ 5V SI/PNP	
QA12	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
RA01	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA02	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA03	61079-918-391	R-CHIP;RH C1608 CS 391-J	
RA04	61079-918-391	R-CHIP;RH C1608 CS 391-J	
RA05	A1020-0570	R-CHIP;RH 1/10 CS 8R2-J C2012 RMC 1/10 8.2-J	
RA06	A1020-0570	R-CHIP;RH 1/10 CS 8R2-J C2012 RMC 1/10 8.2-J	
RA07	61079-917-478	R-CHIP;RH C2012 CS 4R7-J	
RA08	61079-917-478	R-CHIP;RH C2012 CS 4R7-J	
RA09	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA10	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA15	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RA16	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RA17	61079-918-332	R-CHIP;RH C1608 CS 332-J	
RA18	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RA20	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA22	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA23	61079-918-473	R-CHIP;RH C1608 CS 473-J	
RA24	61079-918-122	R-CHIP;RH C1608 CS 122-J	
RA25	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA26	A1020-0619	R-CHIP;RH 1/16 CS 223-F C1608	
RA27	B1020-0719	R-CHIP;RH 1/16 CS 183-D C1608 RR0816P-183-D	
RA28	A1020-0619	R-CHIP;RH 1/16 CS 223-F C1608	
RA29	A1020-0636	R-CHIP;RH 1/16 CS 333-F C1608	
RA31	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RA32	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RA33	61079-918-223	R-CHIP;RH C1608 CS 223-J	
RA34	61079-918-333	R-CHIP;RH C1608 CS 333-J	
RA35	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA36	61079-918-473	R-CHIP;RH C1608 CS 473-J	
RA37	61079-918-122	R-CHIP;RH C1608 CS 122-J	

Loca. No	Part No	Description & Specification	Remark
RA38	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RA39	61079-918-393	R-CHIP;RH C1608 CS 393-J	
RA40	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA41	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA42	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA43	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA44	61079-918-153	R-CHIP;RH C1608 CS 153-J	
RA45	61079-918-563	R-CHIP;RH C1608 CS 563-J	
RA46	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA47	61079-918-563	R-CHIP;RH C1608 CS 563-J	
RA48	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RA49	61079-918-682	R-CHIP;RH C1608 CS 682-J	
RA50	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA51	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA52	61079-918-100	R-CHIP;RH C1608 CS 100-J	
RA53	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA54	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA55	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA56	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RA60	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RA67	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA69	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RA70	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RA71	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RA72	61079-918-153	R-CHIP;RH C1608 CS 153-J	
RA73	61079-918-473	R-CHIP;RH C1608 CS 473-J	
RA74	61079-918-223	R-CHIP;RH C1608 CS 223-J	
RA75	61079-918-391	R-CHIP;RH C1608 CS 391-J	
RA77	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RA78	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RD38	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RE43	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RE44	61079-918-000	R-CHIP;RH C1608 CS 000-J	
XA01	B1280-0111	CRYSTAL;12MHZ CX-49F 100PPM CHIP	
DRIVE PARTS			
CD01	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD02	61454-153-470	C-CERAMIC CHIP;C1608 CH1H470JT	
CD03	61454-243-102	C-ELEC.CHIP;ECE-V1EA100P	
CD04	A1106-0111	C-TANTALUM,CHIP;CS 35V T 105-M C3528 SCN1V105MR-B	
CD05	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD06	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R	
CD07	61619-908-011	C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V	
CD09	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD10	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD11	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CD12	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD13	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CD14	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CD15	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD16	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD17	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD18	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CD19	61454-153-150	C-CERAMIC CHIP;C1608 CH1H150JT	
CD20	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD21	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CD22	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CD23	61619-908-011	C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V	
CD24	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CD25	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	

Loca. No	Part No	Description & Specification	Remark
CD26	61454-243-471	C-ELEC.CHIP;ECE-V0JA470P	
CD27	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CD29	B1100-0779	C-CERAMIC-CHIP;CK 73 Y5V 16V T 334-Z C1608 GRM39Y5	
CD31	B1100-0630	C-CERAMIC,CHIP;CK 73 Y5V 16V T 105-Z C2012	
CD33	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
CD34	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD35	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD40	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD41	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD45	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD46	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD47	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD48	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD49	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
CD50	61454-153-120	C-CERAMIC CHIP;C1608 CH1H120JT	
CD53	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
CD54	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
CD55	61454-153-150	C-CERAMIC CHIP;C1608 CH1H150JT	
CD56	61454-153-100	C-CERAMIC CHIP;C1608 CH1H100DT	
CD58	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CD59	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CND01	B6012-0253	CONNECTOR-HOUSING;SD-52588-1890 WHT MOLEX	
DD01	62169-901-076	DIODE.CHIP;MA141WA-(TX)	
DD02	62169-901-077	DIODE.CHIP;MA110-(TX)	
DD03	62169-901-077	DIODE.CHIP;MA110-(TX)	
DD06	62169-901-077	DIODE.CHIP;MA110-(TX)	
DD08	62169-901-077	DIODE.CHIP;MA110-(TX)	
FD01	A1240-0109	FILTER-LC;LP 70NSEC G355ENK-K5168=P3 T	
FD02	A1242-0028	FILTER-LC,CHIP;TR 7.16MHZ TH355TSJ-K5178=P3 T C481	
ICD01	B4008-0898	IC;CXD1250N SOP CCD DRIVER	
ICD02	A4008-1069	IC;KA7302 SOP	
ICD03	A4012-0192	IC-LINEAR;KAD0228 SOP	
ICD04	B4004-0394	IC-LOGIC;TC7W08FU-TE12L SOP TAPE 8P	
ICD05	B4004-0340	IC-LOGIC;TC7W04FU-TE12L SOP TAPE 8P	
LD01	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LD02	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LD03	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LD04	B1160-0032	INDUCTOR,CHIP;33UH-J 73 NL252018T-330J C2520	
LD05	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LD06	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LD07	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
LD08	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
QD01	B4050-0088	TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP	
QD02	62129-303-006	TRANSISTOR-CHIP;IMX1	
QD03	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QD04	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QD05	A4050-0104	TR-GENERAL,CHIP;2SA1179 200MW 150MA 180MHZ 55V SI	
QD06	62129-303-006	TRANSISTOR-CHIP;IMX1	
QD07	B4050-0088	TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP	
QD08	B4050-0088	TR-GENERAL,CHIP;IMZ1 300MW 100MA 50MHZ 50V SI/PNP	
QD09	A4050-0104	TR-GENERAL,CHIP;2SA1179 200MW 150MA 180MHZ 55V SI	
QD10	A4060-0040	TR-W/RESISTOR;DTC143TU 200MW 100MA 50V SI/NPN T	
RD01	61079-918-105	R-CHIP;RH C1608 CS 105-J	
RD02	61079-918-123	R-CHIP;RH C1608 CS 123-J	
RD03	61079-918-274	R-CHIP;RH C1608 CS 274-J	
RD04	61079-918-153	R-CHIP;RH C1608 CS 153-J	
RD05	61079-918-123	R-CHIP;RH C1608 CS 123-J	
RD06	61079-918-683	R-CHIP;RH C1608 CS 683-J	
RD07	61079-918-273	R-CHIP;RH C1608 CS 273-J	

Loca. No	Part No	Description & Specification	Remark
RD08	61079-918-123	R-CHIP;RH C1608 CS 123-J	
RD09	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RD10	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RD11	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RD12	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RD14	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RD15	61079-918-242	R-CHIP;RH C1608 CS 242-J	
RD16	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RD17	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RD18	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RD19	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RD20	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RD21	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RD22	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RD23	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RD24	61079-918-332	R-CHIP;RH C1608 CS 332-J	
RD25	61079-918-162	R-CHIP;RH C1608 CS 162-J	
RD26	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RD27	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RD28	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RD29	61079-918-332	R-CHIP;RH C1608 CS 332-J	
RD30	61079-918-222	R-CHIP;RH C1608 CS 222-J	
RD31	61079-918-332	R-CHIP;RH C1608 CS 332-J	
RD32	61079-918-222	R-CHIP;RH C1608 CS 222-J	
RD34	61079-918-152	R-CHIP;RH C1608 CS 152-J	
RD35	61079-918-152	R-CHIP;RH C1608 CS 152-J	
RD36	61079-918-100	R-CHIP;RH C1608 CS 100-J	
RD37	61079-918-221	R-CHIP;RH C1608 CS 221-J	
RD40	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RD41	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RD43	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RD44	61079-918-105	R-CHIP;RH C1608 CS 105-J	
RP10	61079-918-391	R-CHIP;RH C1608 CS 391-J	
PROCESS PARTS			
BP01	A1247-0050	FILTER-EMI BEAD;CB321611-TA SB 0.2OHM-M T OD1.6/L3	
CP01	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
CP02	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
CP03	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP05	61454-158-473	C-CERAMIC CHIP;C1608 JB1C 473KT	
CP06	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP07	61619-908-011	C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V	
CP08	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP09	61454-243-221	C-ELEC.CHIP;ECE-V0JA220R	
CP10	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
CP11	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP12	61454-153-200	C-CERAMIC CHIP;C1608 CH1H200JT	
CP13	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP14	61619-908-011	C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V	
CP15	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
CP16	61619-908-011	C-ELEC.CHIP;UWX1C100 MCR2GB PI3 10U/16V	
CP17	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP20	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP24	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP25	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP26	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
CP27	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP28	61454-159-104	C-CERAMIC CHIP;C1608 F1E 104T-Z	
CP29	A1106-0149	C-TANTALUM,CHIP;CS 10V T 475-M C3216	
CP91	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	

Loca. No	Part No	Description & Specification	Remark
CP92	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
CP93	61454-153-220	C-CERAMIC CHIP;C1608 CH1H220JT	
CTP01	B1111-0025	C-TRIMMER,CERA;TZC03P00A110 CTA 30-6.5PF	
CTP02	B1111-0025	C-TRIMMER,CERA;TZC03P00A110 CTA 30-6.5PF	
DP01	62169-901-030	DIODE.CHIP;MA141WK-(TX)	
DP04	62169-901-077	DIODE.CHIP;MA110-(TX)	
DP05	62169-901-077	DIODE.CHIP;MA110-(TX)	
DP06	62169-901-077	DIODE.CHIP;MA110-(TX)	
DP91	62169-901-068	DIODE.CHIP;MA341-(TX)	
FP01	A1240-0070	FILTER-LC;LP 5.5M TH486LSK-K7003	
ICP01	A4004-0187	IC-LOGIC;KS7301 QFP	
ICP02	A4004-0873	IC-LOGIC;KDA0408 VQFP	
ICP03	B4004-0382	IC-LOGIC;TC4566F-TE85R SOP TAPE	
ICP04	B4004-0340	IC-LOGIC;TC7W04FU-TE12L SOP TAPE 8P	
LP01	B1160-0011	INDUCTOR,CHIP;10UH-K 73 NLC322522T-100K C3225	
LP02	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LP03	B1160-0009	INDUCTOR,CHIP;22UH-K 73 NLC322522T-220K C3225	
LP04	B1160-0055	INDUCTOR,CHIP;68UH-J 73 NL252018T-680J C2520	
QP01	A4050-0104	TR-GENERAL,CHIP;2SA1179 200MW 150MA 180MHZ 55V SI	
QP02	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP03	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP04	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP05	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP06	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP07	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP08	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP09	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP10	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP11	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
QP12	A4050-0124	TR-GENERAL,CHIP;DTC144EU(T106) 200MW 100MA 250MHZ	
QP91	62129-301-117	TRANSISTOR.CHIP;2SC 2812(REEL)L6-TA	
RP01	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP02	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RP03	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RP05	61079-918-153	R-CHIP;RH C1608 CS 153-J	
RP07	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RP08	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RP09	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP100	61079-918-332	R-CHIP;RH C1608 CS 332-J	
RP11	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RP12	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RP13	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RP15	61079-918-102	R-CHIP;RH C1608 CS 102-J	
RP16	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RP17	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RP18	61079-918-242	R-CHIP;RH C1608 CS 242-J	
RP19	A1020-0617	R-CHIP;RH 1/16 CS 221-F C1608	
RP20	A1020-0591	R-CHIP;RH 1/16 CS 102-F C1608	
RP21	61079-918-153	R-CHIP;RH C1608 CS 153-J	
RP22	61079-918-333	R-CHIP;RH C1608 CS 333-J	
RP23	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP24	A1020-0641	R-CHIP;RH 1/16 CS 391-F C1608	
RP25	A1020-0650	R-CHIP;RH 1/16 CS 471-F C1608	
RP26	A1020-0650	R-CHIP;RH 1/16 CS 471-F C1608	
RP27	A1020-0603	R-CHIP;RH 1/16 CS 152-F C1608	
RP28	A1020-0607	R-CHIP;RH 1/16 CS 162-F C1608	
RP29	A1020-0454	R-CHIP;RH 1/16 CS 511-J C1608 RMC 1/16 510-J	
RP30	61079-918-750	R-CHIP;RH C1608 CS 750-J	
RP31	61079-918-242	R-CHIP;RH C1608 CS 242-J	

Loca. No	Part No	Description & Specification	Remark
RP32	A1020-0591	R-CHIP;RH 1/16 CS 102-F C1608	
RP33	A1020-0597	R-CHIP;RH 1/16 CS 122-F C1608	
RP34	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP35	A1020-0650	R-CHIP;RH 1/16 CS 471-F C1608	
RP36	A1020-0627	R-CHIP;RH 1/16 CS 273-F C1608	
RP37	A1020-0618	R-CHIP;RH 1/16 CS 222-F C1608	
RP38	61079-918-242	R-CHIP;RH C1608 CS 242-J	
RP39	A1020-0591	R-CHIP;RH 1/16 CS 102-F C1608	
RP40	A1020-0641	R-CHIP;RH 1/16 CS 391-F C1608	
RP41	A1020-0618	R-CHIP;RH 1/16 CS 222-F C1608	
RP42	A1020-0591	R-CHIP;RH 1/16 CS 102-F C1608	
RP43	A1020-0607	R-CHIP;RH 1/16 CS 162-F C1608	
RP44	A1020-0454	R-CHIP;RH 1/16 CS 511-J C1608 RMC 1/16 510-J	
RP45	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RP50	61079-918-392	R-CHIP;RH C1608 CS 392-J	
RP51	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP52	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP53	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP54	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP55	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP56	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP57	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP58	61079-918-471	R-CHIP;RH C1608 CS 471-J	
RP65	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RP66	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP67	61079-918-683	R-CHIP;RH C1608 CS 683-J	
RP68	61079-918-683	R-CHIP;RH C1608 CS 683-J	
RP69	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP70	61079-918-101	R-CHIP;RH C1608 CS 101-J	
RP71	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RP72	61079-918-104	R-CHIP;RH C1608 CS 104-J	
RP77	61079-918-560	R-CHIP;RH C1608 CS 560-J	
RP78	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RP79	61079-918-000	R-CHIP;RH C1608 CS 000-J	
RP81	A1020-0633	R-CHIP;RH 1/16 CS 303-F C1608	
RP91	61079-918-682	R-CHIP;RH C1608 CS 682-J	
RP92	61079-918-472	R-CHIP;RH C1608 CS 472-J	
RP93	61079-918-103	R-CHIP;RH C1608 CS 103-J	
RP94	61079-918-000	R-CHIP;RH C1608 CS 000-J	
XP01	B1280-0144	CRYSTAL;28.375MHZ CX-49F 30PPM CHIP TAPING	
XP02	B1280-0110	CRYSTAL;17.734476MHZ CX-49F 100PPM CHIP	
157	**69063-214-728**	**ASSY CCD BOARD;VP-H66 PAL**	
C901	A1106-0025	C-TANTALUM,CHIP;CS 20V T 105-M C3216 SCS1D105MR-A	
C902	A1106-0155	C-TANTALUM,CHIP;CS 6.3V T 476-M C6032 SCS0J476MR-C	
C903	61454-154-103	C-CERAMIC CHIP;C1608 B1H 103KT	
C904	A1106-0034	C-TANTALUM,CHIP;CS 25V T 335-M C3528 SCS1E335MR-B	
C905	61454-154-102	C-CERAMIC CHIP;C1608 B1H 102KT	
C906	A1106-0034	C-TANTALUM,CHIP;CS 25V T 335-M C3528 SCS1E335MR-B	
CN901	B6010-1686	CONNECTOR-WAFER;SD-53309-1891 WHT MOLEX	
IC901	B4014-0054	IC-CCD;ICX059AK DIP 16P	
Q901	62139-601-657	FET;2SK 300-3(T7)	
R901	61079-918-392	R-CHIP;RH C1608 CS 392-J	
R902	61079-918-101	R-CHIP;RH C1608 CS 101-J	
R903	61079-918-104	R-CHIP;RH C1608 CS 104-J	
R904	61079-918-393	R-CHIP;RH C1608 CS 393-J	
R905	61079-918-821	R-CHIP;RH C1608 CS 821-J	
R906	61079-918-105	R-CHIP;RH C1608 CS 105-J	

Loca. No	Part No	Description & Specification	Remark
	-	**ADAPTOR**	
	A7008-0097	VP-H65/SEG	
	A7008-0108	VP-H65/SEUK	
	A7008-0109	VP-H65/SEAU	
	-	ASSY MAIN BOARD;AA-E2P	
-	A6006-0283	POWER-CORD;CP2 KJ-0201 1.83MT YH396-32V BLK 35MM 2	
C10	B1102-0333	C-FILM;CFS 992 MPE 250V 224-M -40/85 ECQU2A224MT	
C11	A1100-0450	C-CERAMIC;CK 45 B 400V 222-K CK45B500V222K	
C12	A1100-0450	C-CERAMIC;CK 45 B 400V 222-K CK45B500V222K	
C13	A1104-0719	C-ELEC;CE 04 -25/85 400V 470-M X SHL400VB47M 18X20	
C14	A1100-0450	C-CERAMIC;CK 45 B 400V 222-K CK45B500V222K	
C15	A1100-0450	C-CERAMIC;CK 45 B 400V 222-K CK45B500V222K	
C16	A1102-0219	C-FILM;CQ 922 P 630V T 103-K SC-ARD135	
C17	A1100-0010	C-CERAMIC,CHIP;CK 73 X7R 50V T 102-K C2012 21B 102	
C18	61637-208-229	C-ELEC;CEAP 50V 2.2M SA (5X11)	
C19	A1100-0071	C-CERAMIC,CHIP;CC 73 COG 50V T 391-J C2012 21C 391	
C20	A1100-1000	C-CERAMIC,CHIP;CK 73 Z5U 50V T 154-Z C2012 2012154	
C21	61637-206-330	C-ELEC;CEAP 35V 33M SA(6X11)	
C22	61637-508-101	C-ELEC-CEAP 50V 100M SG(10X12.5)	
C23	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C50	61647-702-470	C-ELEC;CEAP 6.3V 47M SS(2.5)	
C51	A1100-0010	C-CERAMIC,CHIP;CK 73 X7R 50V T 102-K C2012 21B 102	
C52	A1100-0010	C-CERAMIC,CHIP;CK 73 X7R 50V T 102-K C2012 21B 102	
C53	61637-504-102	C-ELEC;CEAP 16V 1000M SG(10X20)	
C54	A1104-0480	C-ELEC;CE 04 F 16V T 471-M STX/KME -40/105	
C55	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C56	A1100-0011	C-CERAMIC,CHIP;CK 73 X7R 50V T 103-K C2012 21B103K	
C57	61647-708-010	C-ELEC;CEAP 50V 1M SS(2.5)	
C59	61617-408-479	C-ELEC;CEAP 50V 4.7M RSS(4X7)	
C60	61453-131-105	C-CERAMIC.CHIP;GRM42-6Y5V105Z16 TAPG	
C61	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C62	B1100-0674	C-CERAMIC,CHIP;CK 73 Y5V 16V T 685-Z C3225	
C64	61417-109-210	C-CERAMIC.HK;CK45F TAPG 50V 104-Z	
C65	61407-117-101	C-CERAMIC.AXIAL;UP050F 104Z	
C66	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
C67	A1100-0017	C-CERAMIC,CHIP;CK 73 Z5U 50V T 104-Z C2012 21F104Z	
D10	B4104-0065	DIODE-RECT;S1WB60 600V 1A BRIDGE GE	
D11	B4112-0006	DIODE-SCHOTTKY;ERA22-10 1KV 0.5A 0.5PF/1KV	
D12	62169-901-077	DIODE.CHIP;MA110-(TX)	⚠
D13	B4106-0240	DIODE-ZENER,CHIP;RD20S-B 20V 100MA T	
D14	B4106-0239	DIODE-ZENER,CHIP;RD4.7S-B 4.7V 100MA T	
D15	B4106-0241	DIODE-ZENER,CHIP;RD24S-B 24V 100MA T	
D16	B4112-0006	DIODE-SCHOTTKY;ERA22-10 1KV 0.5A 0.5PF/1KV	
D17	B4112-0006	DIODE-SCHOTTKY;ERA22-10 1KV 0.5A 0.5PF/1KV	
D51	B4112-0002	DIODE-SCHOTTKY;ESAC85M-009 90V 10A 0.9PF/0.3V	
D52	62169-501-064	DIODE;1N5819(ERB 81-004)V	
D53	A4114-0009	DIODE-ARRAY,CHIP;DAN202K 80V 100MA 4NS CA2-3 T	
D54	62169-901-096	DIODE-CHIP;DAP202K (T96)	
D55	62169-901-077	DIODE.CHIP;MA110-(TX)	
D57	B4106-0238	DIODE-ZENER,CHIP;RD5.1S-B2 5.1V 100MA T	
F10	B3065-0202	FUSE;DEMKO FST 250V 1.25A 5X20MM S505 C HBC	⚠
IC11	B4008-1207	IC;FA5304S SOP 8P TAPE	⚠
IC12	B4010-0011	IC-HYBRID;PC113(LY) DIP	⚠
	B4161-0037	PHOTO-COUPLER;TLP621-GR ST	
IC51	62119-402-030	IC-FP;NJM3414AM(TE3)	
IC52	A4008-1209	IC;TK11640N TO-92S 3P TAPE	
IC53	67199-0260-00	MICOM;TMP47C241NFF34 CS95 QFP	⚠
J51	B3040-0068	JACK-DC;PI3 HEC0740-01-010 3P	⚠
L10	A1151-0001	COIL-LINE FILTER;BSF-2123 20MH 10OHM	⚠

Loca. No	Part No	Description & Specification	Remark
L11	A1247-0053	FILTER-EMI BEAD;BFS3565A0L SB 100OHM/100MHZ-90OHM	
L51	A1132-0008	COIL-PEAKING;10UH-J RA EL0606RA-100J Q80 F22MHZ	
L52	A1130-0020	COIL-CHOKE;100UH-J RA 1KHZ PI0.35	
LED51	B4150-0287	LED-DISPLAY;LN086WP38 ORG/GRN PI1.8	
Q10	B4054-0052	FET;2SK903M-F155 40W 3A 800V MOS/N-CHANNEL ST	⚠
Q51	B4052-0027	TR-HIGH POWER;2SB1127S 10W 5A 320MHZ 25V SI/PNP	
Q52	62129-101-110	TRANSISTOR.CHIP;KSR 1102 (REEL)	
Q53	62149-201-016	TRANSISTOR;2SB 1203S	
Q54	62129-101-110	TRANSISTOR.CHIP;KSR 1102 (REEL)	
Q55	62129-101-140	TRANSISTOR.CHIP;KSR 2104(REEL)	
Q56	62129-101-140	TRANSISTOR.CHIP;KSR 2104(REEL)	
Q57	62129-101-140	TRANSISTOR.CHIP;KSR 2104(REEL)	
R01	61079-917-000	R-CHIP;RH C2012 CS 000-J	
R02	61079-917-000	R-CHIP;RH C2012 CS 000-J	
R03	61079-917-000	R-CHIP;RH C2012 CS 000-J	
R04	61079-917-000	R-CHIP;RH C2012 CS 000-J	
R05	61079-217-000	R-CHIP;RH C3216 CS 000-J	
R06	61079-217-000	R-CHIP;RH C3216 CS 000-J	
R10	61048-277-275	R-CARBON;RD 1/4 T 275-J	
R12	A1014-0079	R-CEMENT;RWC 2W I 3R3-J ST ABCO	
R13	61048-177-823	R-CARBON;RD 1/8 T 823-J	
R14	61048-177-823	R-CARBON;RD 1/8 T 823-J	
R15	A1020-0837	R-CHIP;RH 1/8 CS 823-J 3216	
R16	61048-177-823	R-CARBON;RD 1/8 T 823-J	
R17	61049-527-473	R-METAL OXIDE;RS 2 P 473-J	
R19	A1004-0220	R-METAL OXIDE;RS 1 P R47-J	
R20	61079-917-221	R-CHIP;RH C2012 CS 221-J	
R21	61079-917-338	R-CHIP;RH C2012 CS 330-J	
R22	61079-917-155	R-CHIP;RH C2012 CS 155-J	
R24	61079-917-338	R-CHIP;RH C2012 CS 330-J	
R25	61079-917-822	R-CHIP;RH C2012 CS 822-J	
R51	61079-217-100	R-CHIP;RH C3216 CS 100-J	
R52	A1020-0381	R-CHIP;RH 1/10 CS 272-F C2012 MCR/RMC	
R53	61079-916-122	R-CHIP;RH C2012 CS 122-F	
R54	A1020-0388	R-CHIP;RH 1/10 CS 331-F C2012 MCR/RMC	
R55	61079-917-104	R-CHIP;RH C2012 CS 104-J	
R56	61079-917-221	R-CHIP;RH C2012 CS 221-J	
R57	61079-917-272	R-CHIP;RH C2012 CS 272-J	
R58	61079-917-104	R-CHIP;RH C2012 CS 104-J	
R59	61079-917-120	R-CHIP;RH C2012 CS 120-J	
R60	61079-916-471	R-CHIP;RH C2012 CS 471-F	
R61	61079-916-122	R-CHIP;RH C2012 CS 122-F	
R62	61079-916-472	R-CHIP;RH C2012 CS 472-F	
R63	61079-916-472	R-CHIP;RH C2012 CS 472-F	
R64	61079-917-270	R-CHIP;RH C2012 CS 270-J	
R65	A1004-0221	R-METAL OXIDE;RS 1 P 0R1-J	
R66	61079-917-123	R-CHIP;RH C2012 CS 123-J	
R67	61079-917-122	R-CHIP;RH C2012 CS 122-J	
R68	61079-917-182	R-CHIP;RH C2012 CS 182-J	
R69	61079-917-471	R-CHIP;RH C2012 CS 471-J	
R70	B1004-0442	R-METAL OXIDE;RS 3W N 43-J ERG3SJ430H	
R71	61079-917-103	R-CHIP;RH C2012 CS 103-J	
R72	61079-917-103	R-CHIP;RH C2012 CS 103-J	
R73	61079-917-101	R-CHIP;RH C2012 CS 101-J	
R74	B1004-0442	R-METAL OXIDE;RS 3W N 43-J ERG3SJ430H	
R75	61079-917-153	R-CHIP;RH C2012 CS 153-J	
R76	61079-917-153	R-CHIP;RH C2012 CS 153-J	
R77	61079-917-103	R-CHIP;RH C2012 CS 103-J	
R78	61079-917-153	R-CHIP;RH C2012 CS 153-J	

Loca. No	Part No	Description & Specification	Remark
R79	61079-917-103	R-CHIP;RH C2012 CS 103-J	
R80	61079-917-391	R-CHIP;RH C2012 CS 391-J	
R81	61079-917-153	R-CHIP;RH C2012 CS 153-J	
R82	61079-917-272	R-CHIP;RH C2012 CS 272-J	
R83	61079-917-391	R-CHIP;RH C2012 CS 391-J	
R84	61079-917-273	R-CHIP;RH C2012 CS 273-J	
R85	61079-917-153	R-CHIP;RH C2012 CS 153-J	
R86	61079-917-273	R-CHIP;RH C2012 CS 273-J	
R87	61049-327-101	R-METAL OXIDE;RS 1 P 101-J	
R90	61079-217-470	R-CHIP;RH C3216 CS 470-J	
R91	61079-217-470	R-CHIP;RH C3216 CS 470-J	
R92	61079-217-470	R-CHIP;RH C3216 CS 470-J	
R93	61079-217-470	R-CHIP;RH C3216 CS 470-J	
R94	61079-917-273	R-CHIP;RH C2012 CS 273-J	
R95	61079-917-122	R-CHIP;RH C2012 CS 122-J	
R96	61079-917-182	R-CHIP;RH C2012 CS 182-J	
SW51	B3018-0071	SW-TACT,V;EVQ214-07K 6X6X7 1KEY T DC15V20MA SPST	
T10	A1199-0020	TRANS-POWER;EI25X19 AC90/260V 50HZ AC5.1V B DEMKO	⚠
W10	A6010-0459	CONNECTOR-WAFER;YW396-02V WHT	
XT51	64539-102-012	CERAMIC RESONATOR;FCR 4.0MC5	

4. EXPLODED VIEW / PARTS LIST

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4-5. MECHANICAL PARTS (1) ------------------ 4-6

4-6. MECHANICAL PARTS (2) ------------------ 4-7

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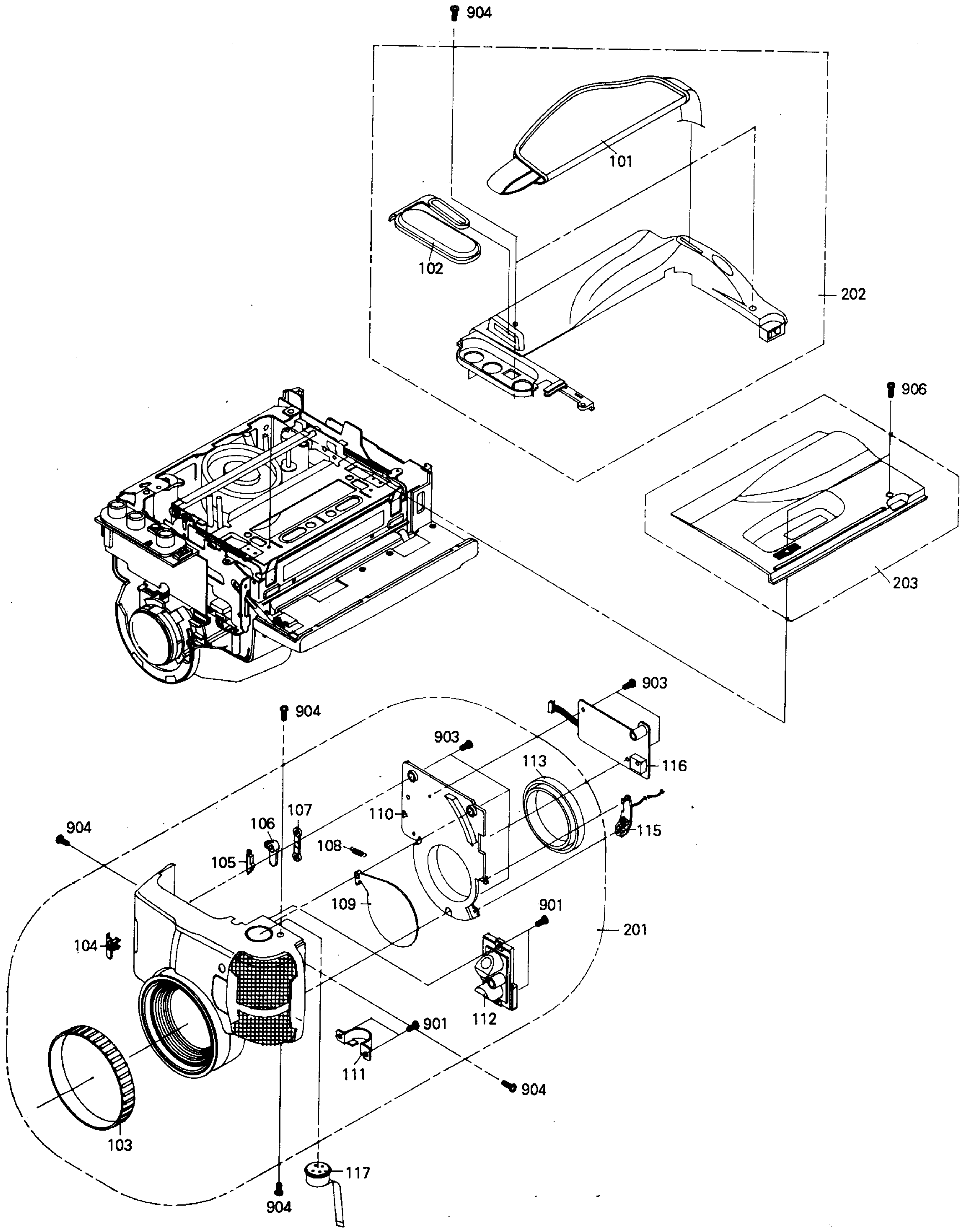
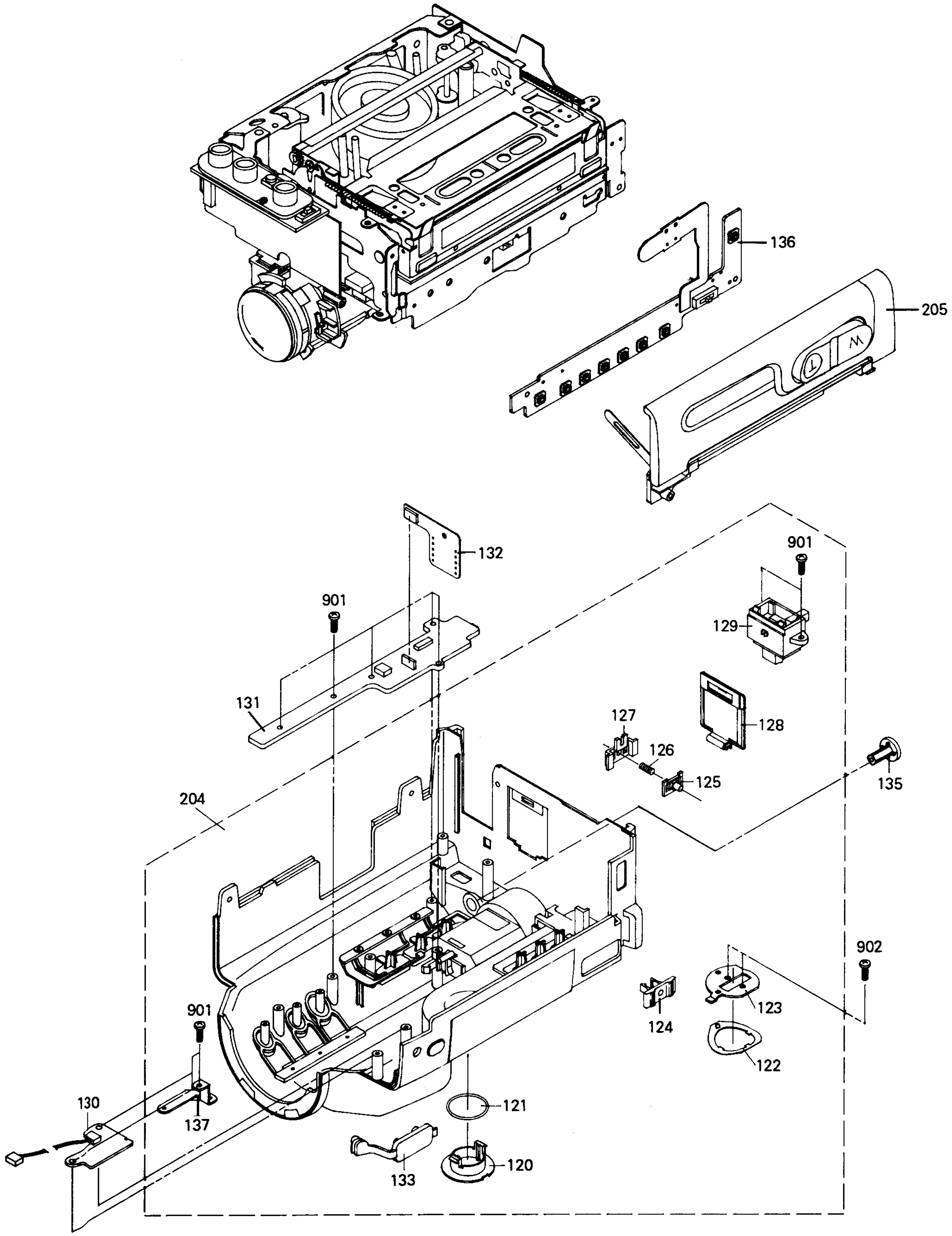
Memo

4-1. INSTRUMENT ASSEMBLY (1)



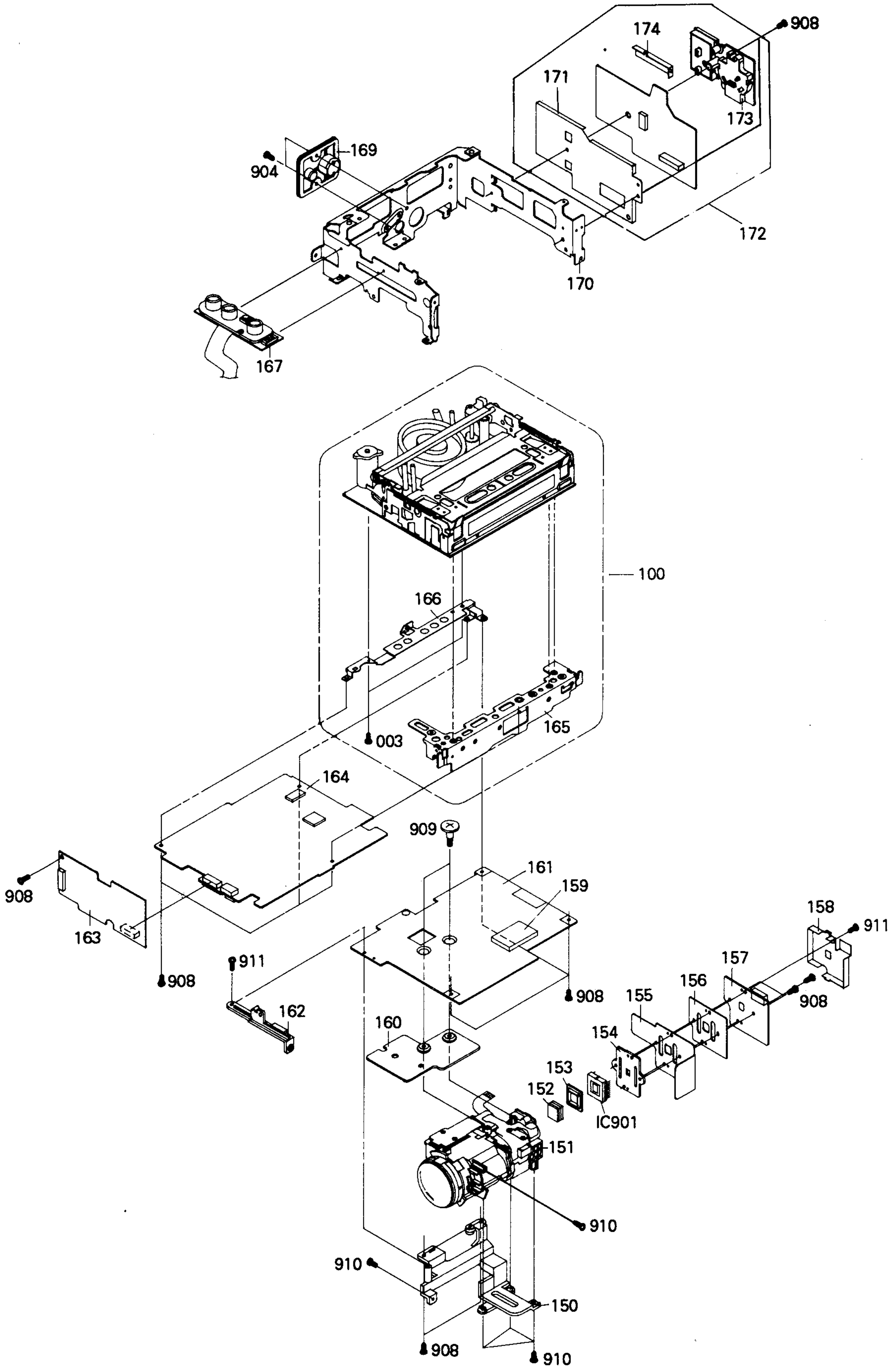
Loca. No	Part No	Description & Specification	Remark
101	67179-0211-00	UNIT-BELT GRIP(ASSY);SV-H66	
102	63314-0050-00	COVER-A/V JACK;TPE T1.5 BLK	
103	62024-0028-00	BAND-MANUAL RING;SILICON T1.0 BLK SV-H66	
104	64083-0577-00	KNOB-COVER;ABS94HB GRY SV-H66	
105	63323-0393-00	HOLDER-KNOB COVER;POM NTR SV-H66	
106	60572-0027-00	RING-MANUAL;PC OD53 BLK T1.2 SV-H66	
107	63034-0026-00	ROD-COVER;POM BLK SV-H425	
108	66674-641-810	SPRING-KNOB EJECT;SUS304 WPB	
109	63313-0185-00	COVER-LENS;ABS94HB T0.8 GRY SV-H66	
110	63322-0387-00	HOLDER-COVER(LENS);ABS94HB BLK SV-H66	
111	63014-0254-00	BRACKET-JACK;SECC T0.8 SV-H66	
112	69063-214-607	ASSY MIC;ECM-SO 6H SV-H66	
113	63354-0097-00	GUIDE-RUBBER(LENS);NBR BLK T1.5 SV-H66	
115	69063-214-692	ASSY MANUAL FOCUS BOARD;SV-H66 NTSC	
116	69063-214-599	ASSY MIC BOARD;SV-H66 NTSC	
117	69063-214-594	ASSY S-JACK BOARD;SV-H66 NTSC	
201	69063-214-745	ASSY CASE FRONT;VP-H66/SEG(PAL)	
202	69063-214-747	ASSY CASE RIGHT;VP-H66/SEG(PAL)	
203	69063-214-743	ASSY COVER HOUSING;VP-H66/SEG(PAL)	
901	67128-521-206	SCREW-TAP TITE BH;3B+2X6 FE FZB	
903	67128-522-240	SCREW-TAP TITE BH;2X4 FE FZB	
904	67094-120-240	SCREW-BH;M2X4 FE FZB	
906	A0100-0137	SCREW-MACHINE;BH UP M1.7 5.5 SWRCH10A ZPC2 BLK	

4-2. INSTRUMENT ASSEMBLY (2)



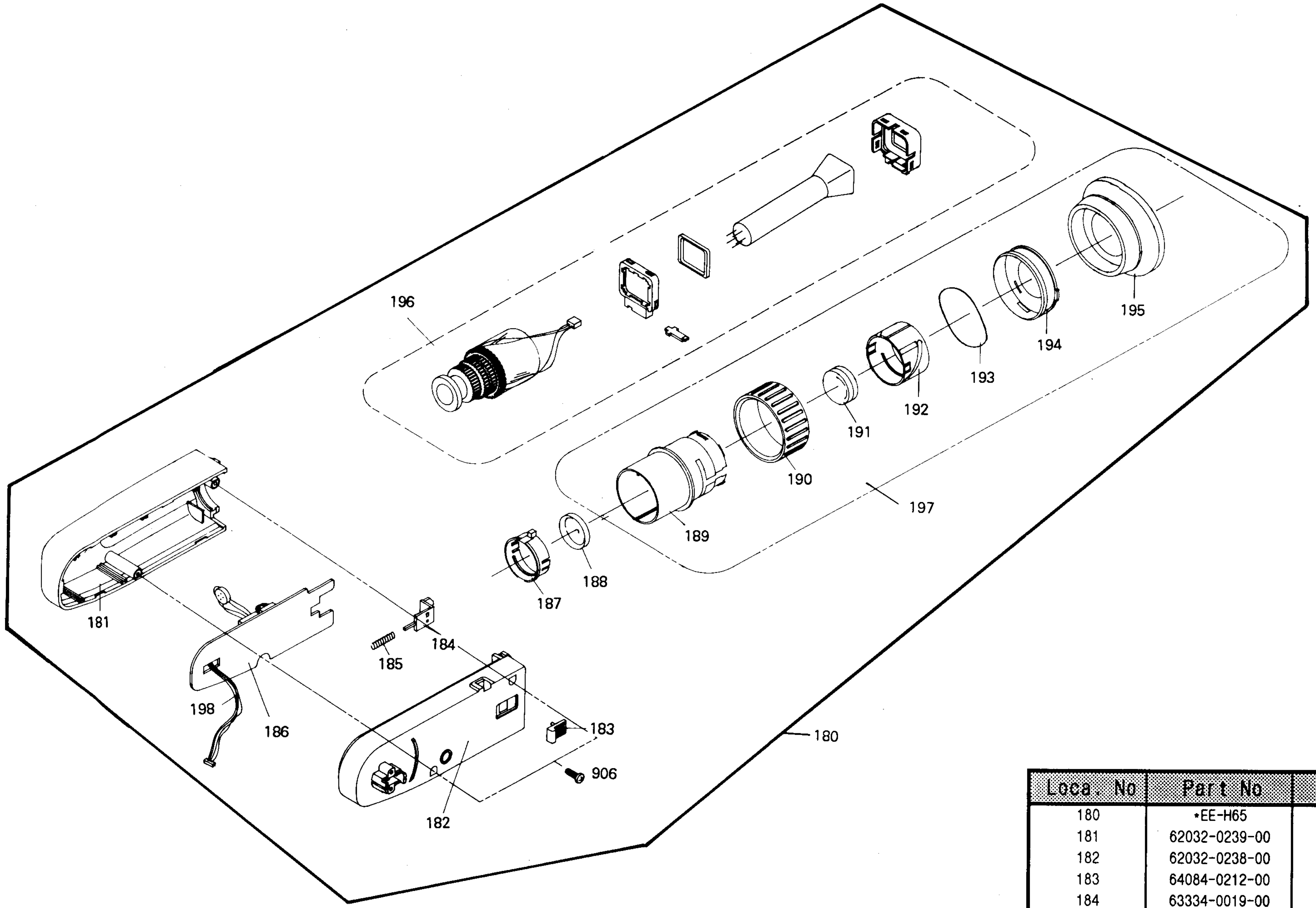
Loca. No	Part No	Description & Specification	Remark
120	61644-0020-00	SLIDER-RING ROTATE EVF;POM T1 BLK(VN-E405)	
121	63394-0053-00	RUBBER-RING EVF;SILICON BLK	
122	60104-0028-00	PLATE-SPRING EVF;C1720S T0.4 VN-E405	
123	63074-0010-00	SUPPORT-EVF;STS T0.8 VN-E405	
124	64083-0573-00	KNOB-POWER;ABS94HB GRY SV-H66	
125	63384-0033-00	STOPPER-POWER;ABS94HB T1.0 GRN SV-H66	
126	66674-641-610	SPRING-KNOB POWER;SUS304 WPB	
127	63324-0381-00	HOLDER-POWER;POM NTR SV-H66	
128	63314-0123-00	COVER-LI BATTERY;PP T1.5 BLK VN-U12	
129	69063-214-667	ASSY-BATT EJECTOR;SV-H66	
130	69063-214-699	ASSY LIGHT BOARD;SV-H66	
131	69063-214-697	ASSY FUNCTION CAM BOARD;SV-H66 NTSC	
132	69063-214-698	ASSY FUNCTION ROTARY BOARD;SV-H66	
133	63313-0186-00	CAP-LIGHT JACK;TPR T2.0 BLK SV-H66	
135	63314-0095-00	CAP-JACK;PP T1.5 BLK	
136	69063-214-696	ASSY FUNCTION VTR BOARD;SV-H66 NTSC	
137	63013-0267-00	BRACKET-CASE(L/F);SECC T0.8 SV-H66	
204	69063-214-957	ASSY CASE LEFT;VP-H65	
205	69063-214-744	ASSY CASE COVER;VP-H66/SEG(PAL)	
901	67128-521-206	SCREW-TAP TITE BH;3B+2X6 FE FZB	
902	67128-520-206	SCREW-TAP TITE PLAIN;B+2X6 FE FZB	

4-3. INSTRUMENT ASSEMBLY (3)



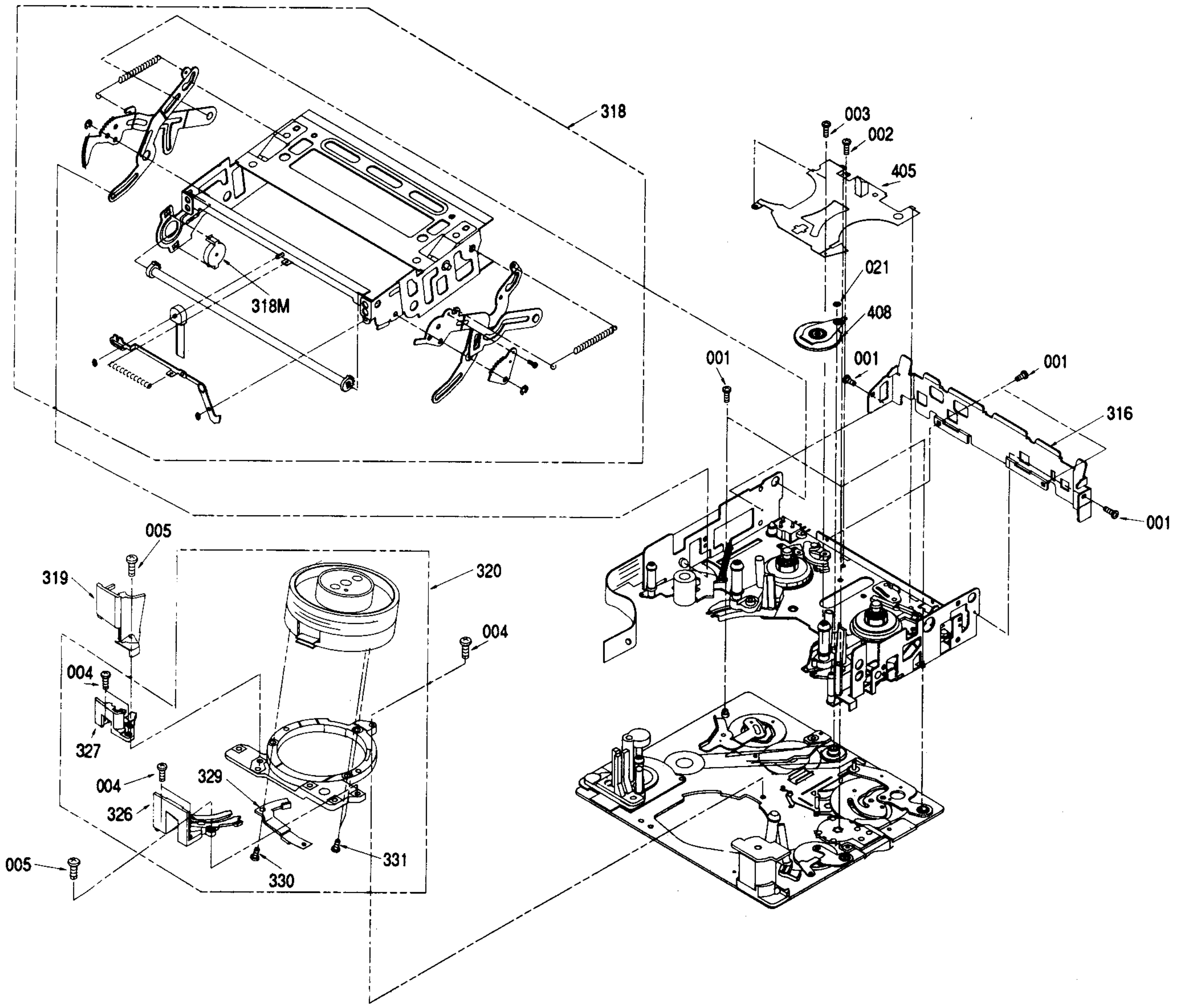
Loca. No	Part No	Description & Specification	Remark
003	60504-0017-00	SCREW;BH + FP M1.4 L2.2 S45C-HC BLK	
100	DE-4UHP	ASSY COMPACTDECK;8MM PI40 3HD HI BAND PAL	
150	62212-0098-00	FRAME-LENS;ABS94HB T1.5 BLK SV-H66	
151	62719-0061-00	LENS-ZOOM;I54G-VE D27	
152	B1254-0004	FILTER-OLP;SV-516 -40/85	
153	63304-0025-00	SPACER-CCD;SILICON T2 W31 L29 SV-H66	
154	63014-0191-00	BRACKET-CCD;SECC T1.2 (VN-U12)	
155	61123-0040-00	HEAT SINK-CCD;BSP T0.3 SV-H66	
156	60244-0100-00	INSULATION-CCD;PE T0.2 W31 L29 SV-H66	
157	69063-214-728	ASSY CCD BOARD;VP-H66 PAL	
158	62073-0251-00	SHIELD-CASE CCD;SPTE T0.25 WHT SV-H66	
159	62073-0252-00	SHIELD-CASE CAMERA(TOP);SPTE T0.25 WHT SV-H66	
160	63393-0091-00	RUBBER-CAMERA(PCB);NBR SV-H66	
161	69063-214-727	ASSY CAM MAIN BOARD;VP-H66 PAL	
162	63323-0395-00	HOLDER-CAMERA(PCB);ABS94HB BLK SV-H66	
163	69063-214-799	ASSY AUDIO BOARD;VP-H66 PAL	
164	69063-214-723	ASSY VCR MAIN BOARD;VP-H66 PAL	
165	63012-0251-00	BRACKET-DECK(TOP);AL T0.8 SV-H66	
166	63013-0252-00	BRACKET-DECK(BOT);STS304 T0.4 SV-H66	
167	69063-214-595	ASSY A/V JACK BOARD;SV-H66 NTSC	
169	63323-0064-00	HOLDER-TRIOD;ABS94HB+SUS T1.5 VN-E405	
170	62211-0036-01	FRAME-MAIN;ALP T0.8 SV-H66	
171	62073-0248-00	SHIELD-CASE D/D;SPTE T0.25 WHT SV-H66	
172	69063-214-964	ASSY DC/DC BOARD;VP-H65	
173	67179-0210-00	UNIT-BATTERY ASSY;SV-H66	
174	62074-0281-00	SHIELD-CASE BATTERY;SPTE T0.25 SIL SV-H66	
904	67094-120-240	SCREW-BH;M2X4 FE FZB	
908	67094-604-310	SCREW-BH;3+M2X3 FE FZW	
909	60504-0105-00	SCREW-TAP TITE;BH M1.7X5.8 SWRCH 10A ZP4 BLK	
910	A0102-0026	SCREW-TAP TITE;BH M1.7 5 SWRCH10A ZPC2 BLK TB	
911	A0102-0027	SCREW-TAP TITE;BH M1.7 8 SWRCH10A ZPC2 BLK TB	
IC901	B4014-0054	IC-CCD;ICX059AK DIP 16P	

4-4. E.V.F



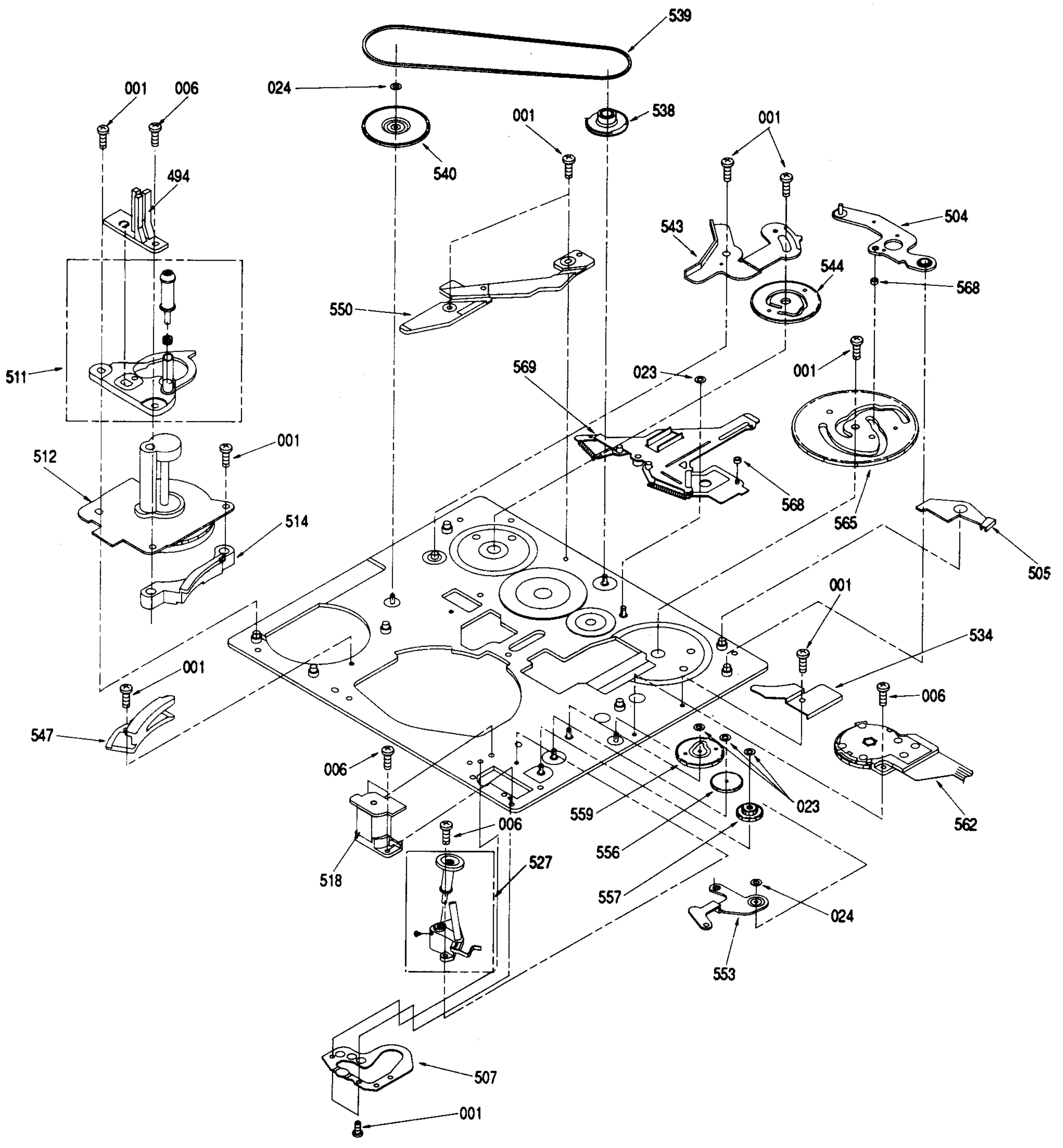
Loca. No	Part No	Description & Specification	Remark
180	*EE-H65	ASSY EVF;VP-H65 PAL	
181	62032-0239-00	CASE-LEFT EVF;ABS94HB T1.5 BLK	
182	62032-0238-00	CASE-RIGHT EVF;ABS94HB T1.5 BLK	
183	64084-0212-00	KNOB-EVF;ABS94HB BLK VP-E807	
184	63334-0019-00	CLAMP(EVF);ABS94HB T1.5 L22 W6 BLK VN-U12	
185	66674-641-610	SPRING-KNOB POWER;SUS304 WPB	
186	69063-214-954	ASSY EVF BOARD;VP-H65 PAL	
187	63323-0271-00	HOLDER-LENS(A);ABS94HB BLK VN-U12	
188	62714-0050-00	LENS-EVF(G);F1 D15.5 SP	
189	63353-0080-00	GUIDE-LENS;ABS94HB T.15 BLK VN-U12	
190	60573-0019-00	RING-EVF;ABS94HB ID18 OD29 BLK T1,5 VN-U12	
191	62713-0049-00	LENS-EVF(MD);PMMA D19.1 ASP	
192	63323-0272-00	HOLDER-LENS(B);ABS94HB BLK VN-U12	
193	62724-0180-00	SPRING-PLATE RING EVF;PS STS301 T0.4 OD26 (VN-U1	
194	63324-0236-00	HOLDER-EYE CUP;ABS94HB BLK (VN-U12)	
195	63394-0055-00	RUBBER-EYE;SILICONE (VN-U12)	
196	69063-214-386	ASSY-CRT;VN-J50(SPORTS)	
197	69063-214-433	ASSY-RING EVF;VN-U12 SPORTS	
198	66439-0087-00	CONNECTOR WIRE(ASSY);CGP1205-51021/5P 1571/#28 1	
906	67128-521-206	SCREW-TAP TITE BH;3B+2X6 FE FZB	

4-5. MECHANICAL PARTS (1)



Loca. No	Part No	Description & Specification	Remark
001	60504-0005-00	SCREW-BH;BH + M1.4 L2 WHT	
002	60504-0015-00	SCREW;BH + FP M1.4 L1.2 S45C-HC BLK	
003	60504-0017-00	SCREW;BH + FP M1.4 L2.2 S45C-HC BLK	
004	60504-0038-00	SCREW-MACHINE;BH B M1.7 L5 FE WHT	
005	60504-0039-00	SCREW-MACHINE;BH B M1.7 L8 FE WHT	
021	60534-0005-00	WASHER-SLIT;ID0.75 OD2.0 T0.2 POLYSLIDER	
316	63312-0011-00	COVER-BACK;A5052 BLK T0.6	
318	62051-0012-00	HOUSING-ASS'Y;STS304/STS303 T0.5 DE-4	
318M	62663-0014-00	DAMPER-HOUSING;SUS/POM/NYLON 30G DE-2A	
319	63353-0057-00	GUIDE-TAPE T;DURACON M90-02 NTR	
320	69063-214-812	ASSY DRUM;DE-4UPH-SS	
326	63081-0011-00	RAIL-STOPPER L;ZDC12	
327	63082-0012-00	RAIL-STOPPER R;ZDC12	
329	66534-0006-00	CONTACT-EARTH BRUSH ASS'Y;SECC/PBSP/CR/C DE-4	
330	60509-0065-00	SCREW-MACHINE;BH UP M2 L7 SWRCH10A WHT WL	
331	67094-604-410	SCREW-BH;1+M2X5 FE FZY,WL	
405	63312-0005-00	COVER-REEL ASSY;SUS304-CSP T0.2+DURACON M90-02 BLK	
408	61603-0005-00	IDLER(ASSY);DE-4A	

4-6. MECHANICAL PARTS (2)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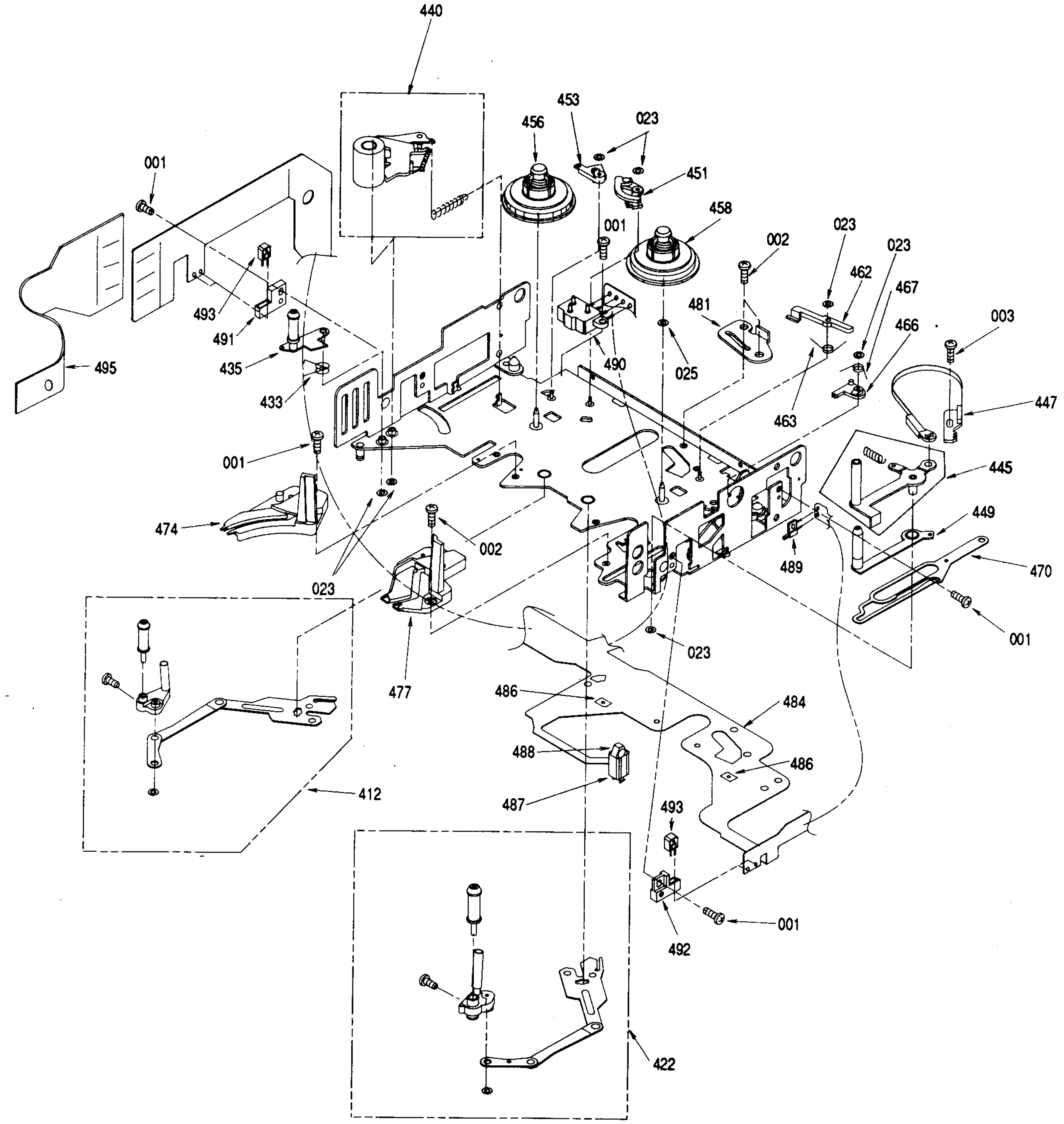
Loca. No	Part No	Description & Specification	Remark
001	60504-0005-00	SCREW-BH;BH + M1.4 L2 WHT	
006	60504-0016-00	SCREW;PH + FP M1.4 L3.5 S45C-HC BLK	
023	60534-0006-00	WASHER-SLIT;PI0.95 OD2.5 T0.25	
024	60534-0003-00	WASHER-SLIT;PI0.75 OD2.5 T0.2 POLYSLIDER	
494	63324-0246-00	HOLDER-FPC;PBT #3300	
504	61533-0058-00	LEVER-CAM ASS'Y;DE-4	
505	61534-0006-00	LEVER-EJECTOR;SUS304-CSP T0.3	
507	63013-0207-01	BRACKET-LOADING;SUS304-CP T0.3	
511	62202-0063-00	BASE-CAPSTAN ASS'Y;STS303/CS/STS304/WPB DE-4	
512	66823-0047-00	MOTOR-CAPSTAN;DE-4U	
514	63083-0014-00	RAIL-MIDDLE R;DURACON M90-02 NAT	
518	66823-0055-02	MOTOR-LOADING(ASSY);DE-4U	
527	63033-0028-00	POLE-BASE SUB IMP(ASSY);SUS+ZDC-2 NAT DE-4	
534	63354-0029-00	GUIDE-MODE SW;SUS304-CSP T0.3	
538	61473-0012-00	GEAR-PULLEY ASSY;DE-3	
539	61493-0006-00	BELT-TIMMING;L137 T0.4 POLYURETHAN	
540	61473-0010-00	GEAR-CAPSTAN ASSY;PA-SBK 1218	
543	61533-0051-00	LEVER-CAM P ASS'Y;DE-4	
544	61473-0009-01	GEAR-CAM PINCH;SUS304-CSP T0.8	
547	63083-0013-00	RAIL-MIDDLE L;DURACON M90-02 NAT	
550	63313-0030-00	COVER-TIME BELT;DURACON M90-02 NAT	
553	61534-0056-00	LEVER-CAM TENS ASS'Y;DE-4	
556	61474-0004-00	GEAR-LOADING B;BERIC	
557	61474-0078-00	GEAR-LOADING A;DURACON M90-02	
559	61473-0005-00	GEAR-CAM TENSION;BERIC	
562	66203-0021-00	SWITCH-MODE(ASSY);HMW0474-010010 DE-4U	
565	69063-214-244	ASSY-GEAR CAM MAIN;DE-4A	
568	61524-0003-00	ROLLER-CAM MAIN;SUS303	
569	60102-0023-00	PLATE-SLIDER ASS'Y;DE-4	

4-7. MECHANICAL PARTS (3)



Loca. No	Part No	Description & Specification	Remark
001	60504-0005-00	SCREW-BH;BH + M1.4 L2 WHT	
002	60504-0015-00	SCREW;BH + FP M1.4 L1.2 S45C-HC BLK	
003	60504-0017-00	SCREW;BH + FP M1.4 L2.2 S45C-HC BLK	
023	60534-0006-00	WASHER-SLIT;PI0.95 OD2.5 T0.25	
025	60534-0023-00	WASHER-SLIT;ID2.6 OD5 T0.25 POLYSLIDER BLK	
412	61543-0066-00	ARM-POLE BASE T(ASSY);SUS+ZDC-2 T2.0 DE-4	
422	61543-0067-00	ARM-POLE BASE S(ASSY);SUS+ZDC-2 T2.6 DE-4	
433	62724-0099-00	SPRING-(T) REVIEW ARM;TS SUS304WPB PI0.26 D2.93	
435	61543-0059-00	ARM-REVIEW ASS'Y;STS303/STS304/CSP	
440	61543-0063-00	ARM-PINCH R ASS'Y(ASSY⊠);DE-4A	
445	61543-0061-00	ARM-TENSION;STS303/STS304 T0.5 L43	
447	63324-0057-00	HOLDER-TEN BAND ASS'Y;DE-4	
449	61534-0068-00	LEVER-GUIDE ASS'Y;STS303/POM	
451	61543-0012-00	ARM-CLUTCH ASSY;DURACON M90-02	
453	61534-0059-00	LEVER-BRAKE T ASS'Y;DE-4	
456	61573-0020-00	REEL-T(ASSY);DE-4A	
458	61573-0019-00	REEL-S ASSY;DE-4A	
462	62614-0006-00	BRAKE-LEVER S;DURACON M90-02 NAT DE-4	
463	62724-0088-00	SPRING-LEVER BRAKE S;SUS304 WPB	
466	61543-0049-00	ARM-BRAKE S;DURACON M90-02 NAT	
467	62724-0087-00	SPRING-ARM BRAKE S;SUS304 WPB	
470	61643-0018-00	SLIDER-L.G;SUS304-CSP 0.4T	
474	63082-0010-00	RAIL-GUIDE T;DURACON M90-02(NAT)	
477	63081-0009-00	RAIL-GUIDE S;DURACON M90-02 NAT	
481	63334-0003-00	CLAMP-LOCKER SUB CHASSIS;SUS304-CSP T0.6	
484	69063-214-314	ASSY FPC SUB CHASSIS;DE-4U	
486	62599-099-033	SENSOR-REEL;TLP 907Y	
487	63324-0014-00	HOLDER-CASSETTE LED;DURACON M90-02(BLK)	
488	62309-112-045	LED-IR;GL453	
489	66209-0019-00	SWITCH-HOUSING;LSA-1112J2PT 15V 2MA	
490	66204-0018-00	SWITCH-DETECTOR;SPPW63	
491	63323-0016-00	HOLDER-END SENSOR;DURACON M90-02(BLK)	
492	63323-0015-00	HOLDER-START SENSOR;DURACON M90-02(BLK)	
493	66214-0014-00	SENSOR-TOP/END;PT4800F	
495	66044-0089-00	FPC-CONNECTION;FPC T0.2 DE-4U	

5. E.V.F Adjustment

NOTE

From now on, the structure of every adjustment is as follows.

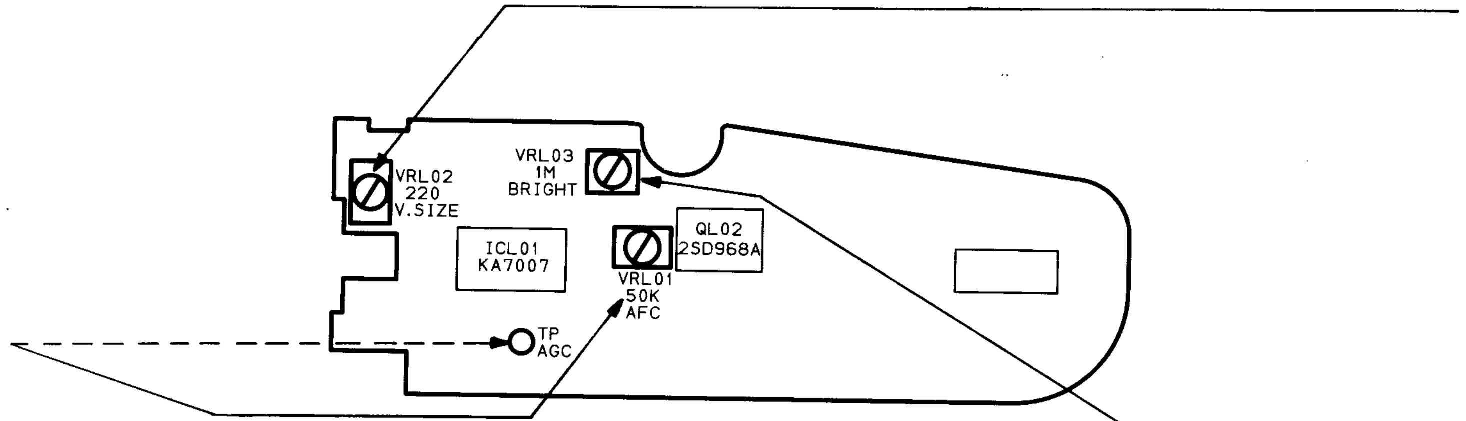
STEP	ADJUSTMENT ITEM
1. MODE and INPUT SIGNAL/ALIGNMENT TAPE 2. TEST POINT and ADJ. part 3. RESULT & REMARKS	

ADJ. part →

Test Point - - →

1	AFC

1. VCR "PB", Alignment tape (Lion pattern).
2. TP AFC & VRL01.
3. * Connect digital voltmeter probe to TP AFC.
   * Adjust VRL01 so that the voltage is DC 2.6V.


VRL02
220
V.SIZE
VRL03
1M
BRIGHT
ICL01
KA7007
QL02
2SD968A
VRL01
50K
AFC
TP
AGC

E.V.F BOARD (CONDUCTOR SIDE)

2	V. SIZE

1. VCR "PB", Alignment tape (Lion pattern).
2. Viewfinder & VRL02.
3. * Adjust the VRL02 so that the center circle on the lion pattern is perfect circle.

3	BRIGHT

1. VCR "PB", Alignment tape (Lion pattern).
2. Viewfinder & VRL03.
3. * Adjust the VRL03 so that the 3rd and 4th steps of the lion pattern can be distinguished.

6. P.C.BOARDS

Page

6-1. DC/DC CONVERTER -------------------- 6-2
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6-4. FUNCTION ROTARY -------------------- 6-3
6-5. FUNCTION VCR ----------------------- 6-4
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6-7. VCR MAIN ---------------------------- 6-6
6-8. CAMERA MAIN ------------------------ 6-8
6-9. CCD ---------------------------------- 6-10
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NOTE

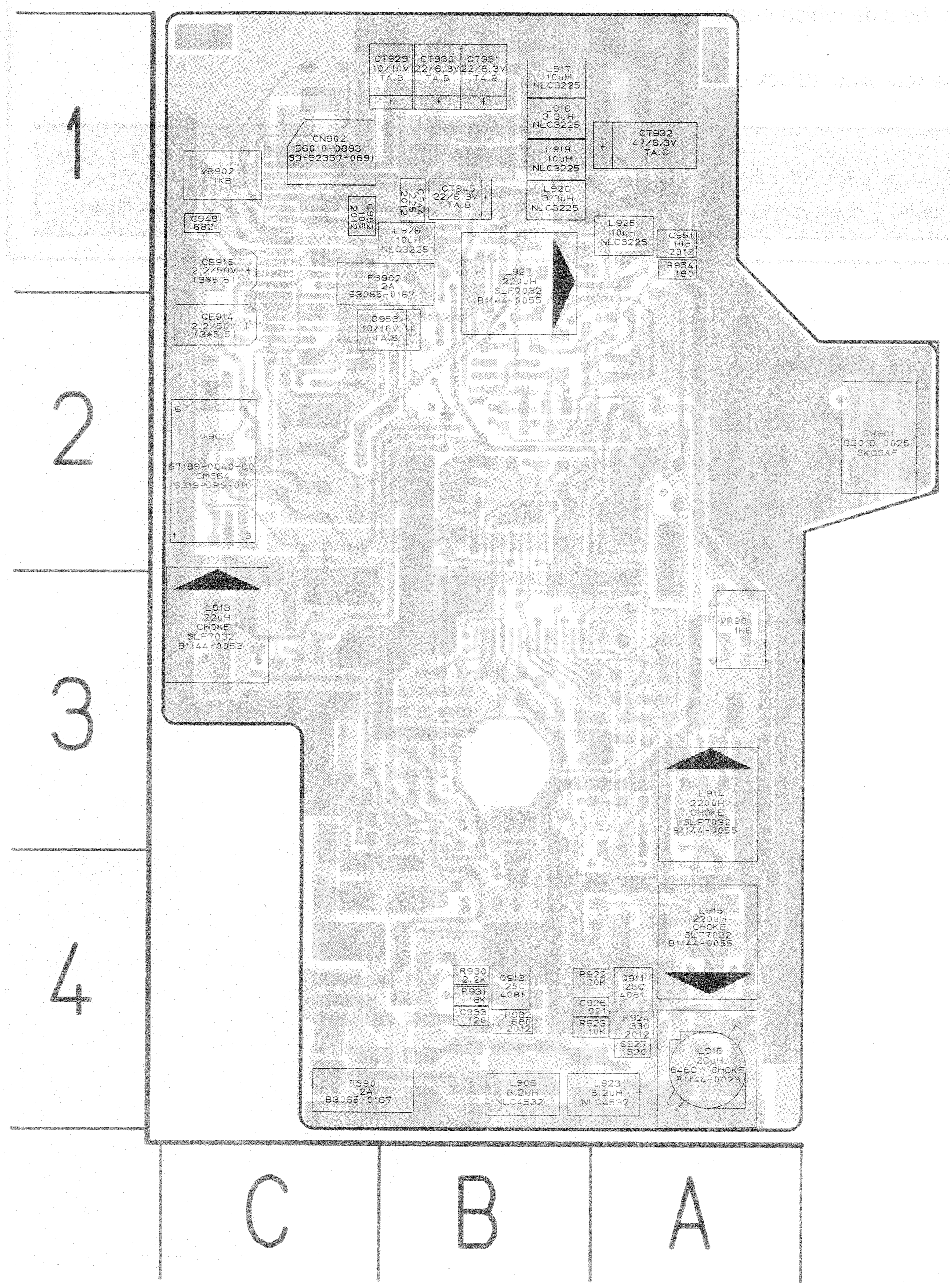
- For P.C.Board

▨ : Pattern from the side which enables seeing. (Blue color)

▨ : Pattern of the rear side. (Black color)

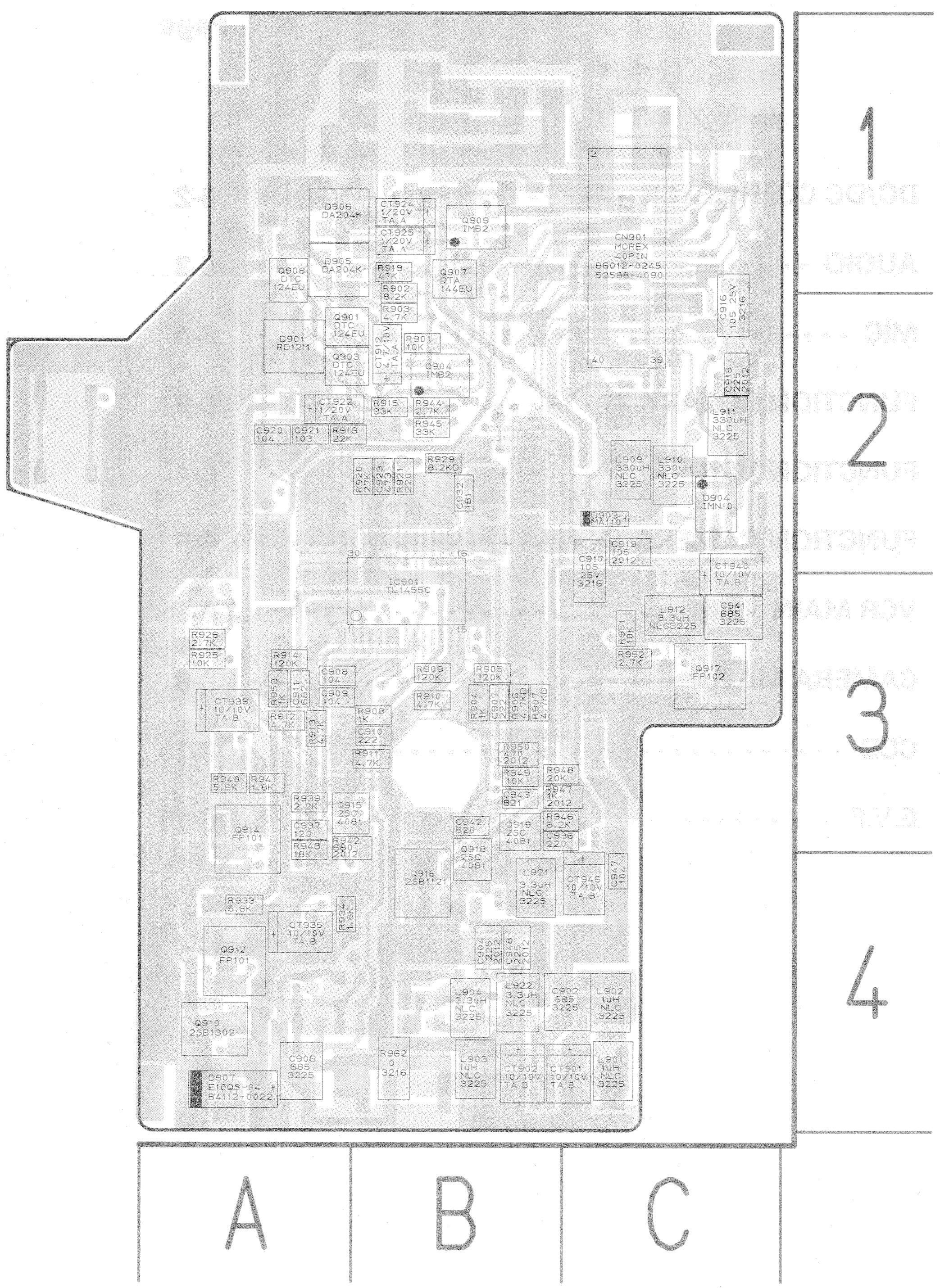
Caution :
Parts face side (Componemt Side) : Parts on the parts face side seen from the parts pattern are indicated.
Pattern face side (Conductor Side) : Parts on the pattern face side seen from the parts face are indicated.

6-1. DC/DC CONVERTER


1
2
3
4
C
B
A
CT929 10/10V TA.B
CT930 22/6.3V TA.B
CT931 22/6.3V TA.B
L917 10uH NLC3225
L918 3.3uH NLC3225
L919 10uH NLC3225
L920 3.3uH NLC3225
CT932 47/6.3V TA.C
CN902 86010-0893 SD-52357-0691
VR902 1KB
C949 682
CT945 22/6.3V TA.B
L926 10uH NLC3225
L925 10uH NLC3225
C951 105 2012
R954 180
CE915 2.2/50V (3x5.5)
CE914 2.2/50V (3x5.5)
PS902 2A 83065-0167
C953 10/10V TA.B
L927 220uH SLF7032 81144-0055
SW901 83018-0025 SKQGAF
T901 67189-0040-00 CMS64 6319-UPS-010
L913 22uH CHOKE SLF7032 81144-0053
VR901 1KB
L914 220uH CHOKE SLF7032 81144-0055
L915 220uH CHOKE SLF7032 81144-0055
R930 2.2K
R931 18K
C935 120
Q913 2SC 4081
R922 20K
Q911 2SC 4081
C926 821
R923 10K
R924 33C 2012
C927 820
L916 22uH S4CY CHOKE 81144-0023
PS901 2A 83065-0167
L906 8.2uH NLC4532
L923 8.2uH NLC4532

LOCATION	COORDINATES
L913	3-C
L914	3-A
L915	4-A
L916	4-A
L917	1-B
L918	1-B
L919	1-B
L920	1-B
L925	1-A
L926	1-B
L927	1-B
PS901	4-C
PS902	1-C
Q911	4-A
Q913	4-B
T901	2-C
VR901	3-A
VR902	1-C

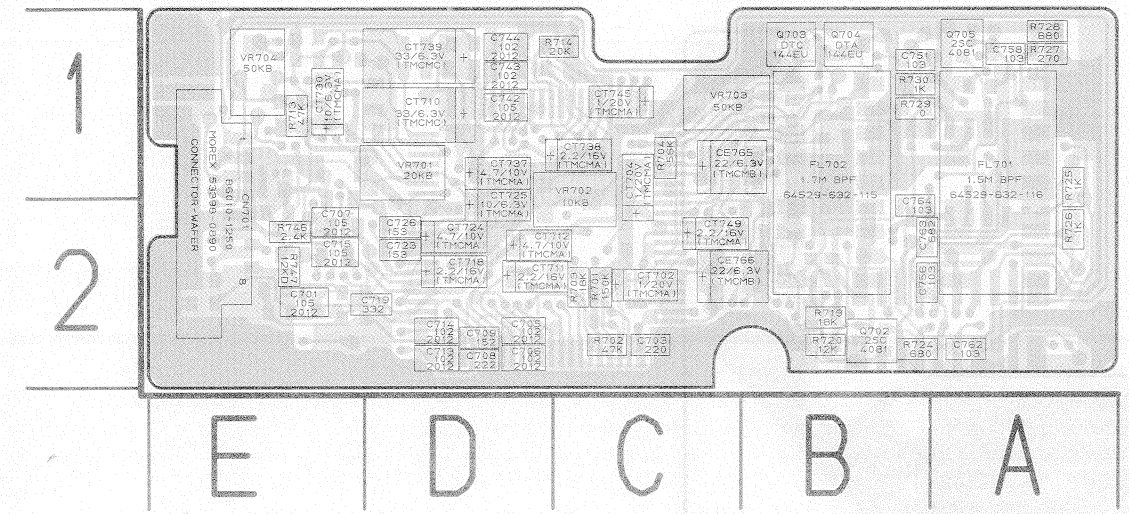
(COMPONENT SIDE)


1
2
3
4
A
B
C
D906 DA204K
CT924 1/20V TA.A
Q909 IMB2
CT925 1/20V TA.A
D905 DA204K
Q908 DTC 124EU
R918 4.7K
R902 8.2K
Q907 DTA 144EU
CN901 MOREX 40PIN 86012-0265 52588-4090
D901 RC12M
Q901 DTC 124EU
R903 4.7K
R901 10K
Q903 DTC 124EU
Q904 IMB2
CT922 1/20V TA.A
R915 33K
R944 2.7K
R945 33K
C920 104
C921 103
R919 22K
R929 8.2KD
L911 330uH NLC 3225
L909 330uH NLC 3225
L910 330uH NLC 3225
D904 1MN10
C913 105 25V 3216
C919 105 2012
CT940 10/10V TA.B
IC901 TL1455C
L912 3.3uH NLC3225
C941 685 3225
R928 2.7K
R925 10K
R914 120K
C908 104
C909 104
R909 120K
R905 120K
R952 2.7K
Q917 FP102
CT939 10/10V TA.B
R912 4.7K
R910 4.7K
R908 1K
C910 222
R911 4.7K
C950 470 2012
R948 20K
R949 10K
R940 5.6K
R941 1.6K
R939 2.2K
Q915 2SC 4081
C943 821
R947 1K 2012
R946 8.2K
Q914 FP101
C937 120
R943 18K
C942 820
Q915 2SC 4081
Q918 2SC 4081
Q916 2SB1121
L921 3.3uH NLC 3225
CT946 10/10V TA.B
C947 104
R933 5.6K
CT936 10/10V TA.B
Q912 FP101
L904 3.3uH NLC 3225
L922 3.3uH NLC 3225
C902 685 3225
L902 1uH NLC 3225
Q910 2SB1302
C906 685 3225
R982 0 3216
L903 1uH NLC 3225
CT902 10/10V TA.B
CT901 10/10V TA.B
L901 1uH NLC 3225
D907 E1005-04 84112-0022

LOCATION	COORDINATES
IC901	3-B
CN901	1-C
D907	4-A
Q904	2-B
Q908	1-A
Q909	1-B
Q910	4-A
Q912	4-A
Q914	3-A
Q916	4-B
Q917	3-C
Q918	4-B
Q919	3-B
L901	4-C
L909	2-C
L910	2-C
L911	2-C
L912	3-C
L921	4-B
C907	3-B
C911	3-A
R904	3-B
R905	3-B
R914	3-A
R925	3-A
R926	3-A
R940	3-A
R941	3-A
R944	2-B
R945	2-B
R953	3-A

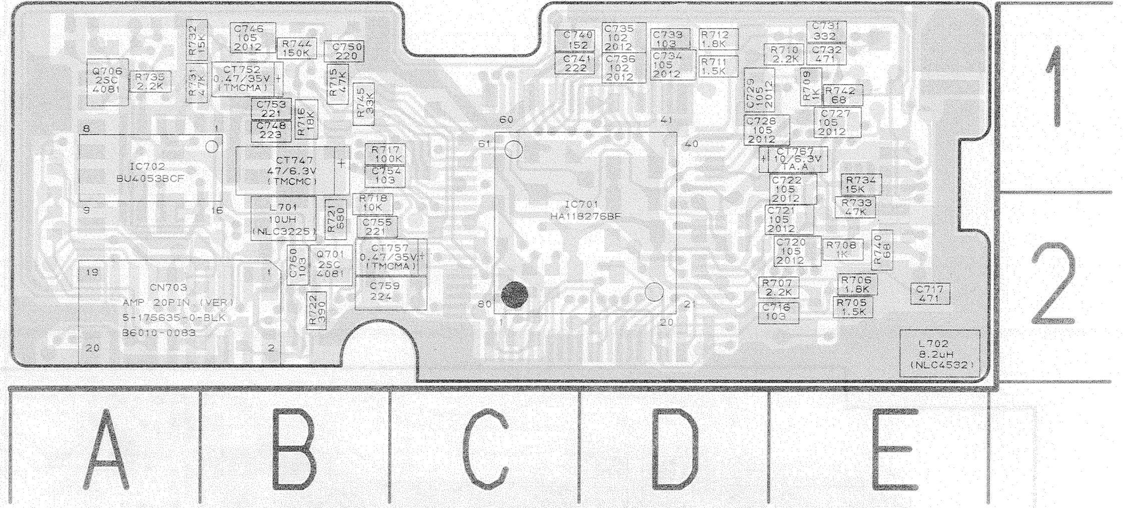
(CONDUCTOR SIDE)

6-2. AUDIO


1
2
E
D
C
B
A
FL702
1.7M BPF
FL701
1.5M BPF
VR701
VR702
VR703
VR704
CN701

LOCATION	COORDINATES
VR701	1-D
VR702	1-C
VR703	1-C
VR704	1-E
CN701	2-E
FL701	1-A
FL702	1-B
Q702	2-B
C751	1-B
C756	2-B
C758	1-A

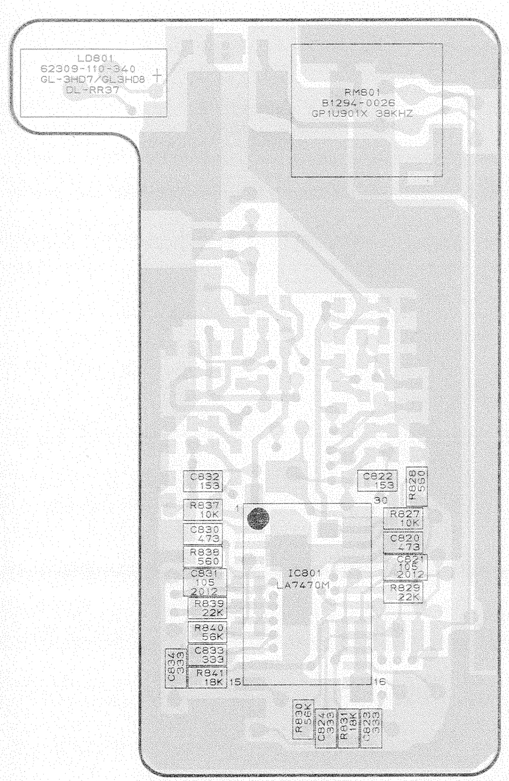
(COMPONENT SIDE)


1
2
A
B
C
D
E
IC702
BU4053BCF
IC701
HA11827SBF
CN703
L701
L702
8.2uH

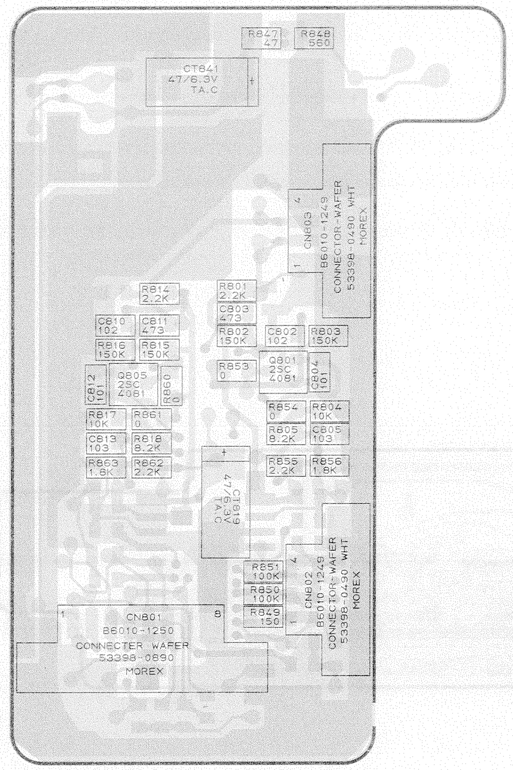
LOCATION	COORDINATES
IC701	2-D
IC702	1-A
CN703	2-A
L701	2-B
Q701	2-B
R708	2-E
R709	1-E
R740	2-E
R742	1-E

(CONDUCTOR SIDE)

6-3. MIC

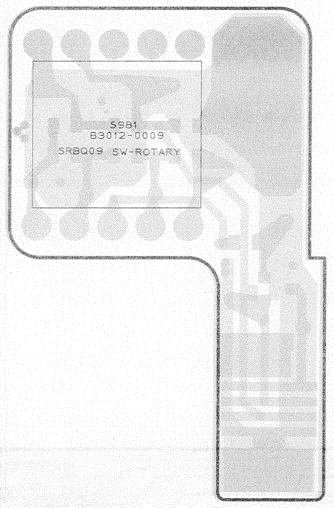

LD801
RM801
IC801
LA7470M

(COMPONENT SIDE)

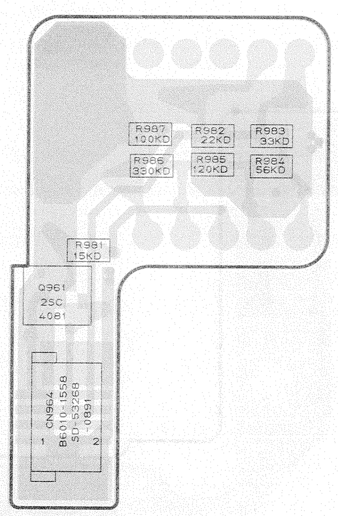

CT841
47/6.3V
CN801
CN802
CN803

(CONDUCTOR SIDE)

6-4. FUNCTION ROTARY

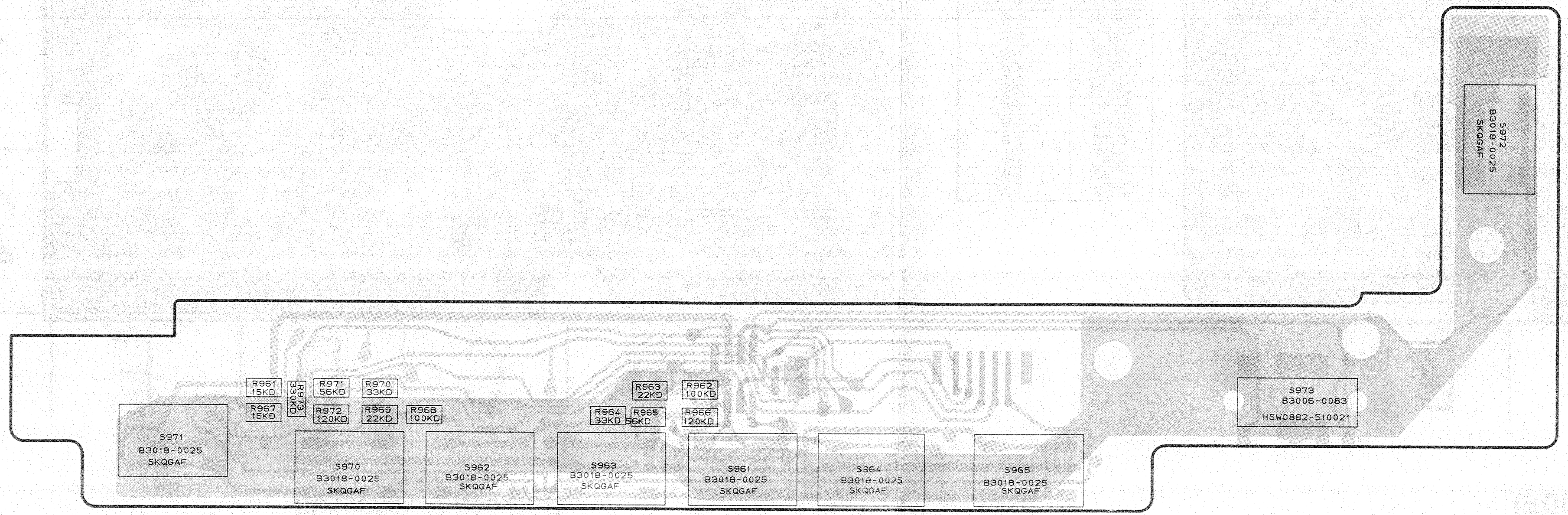

SS981
SRBQ09 SW-ROTARY

(COMPONENT SIDE)

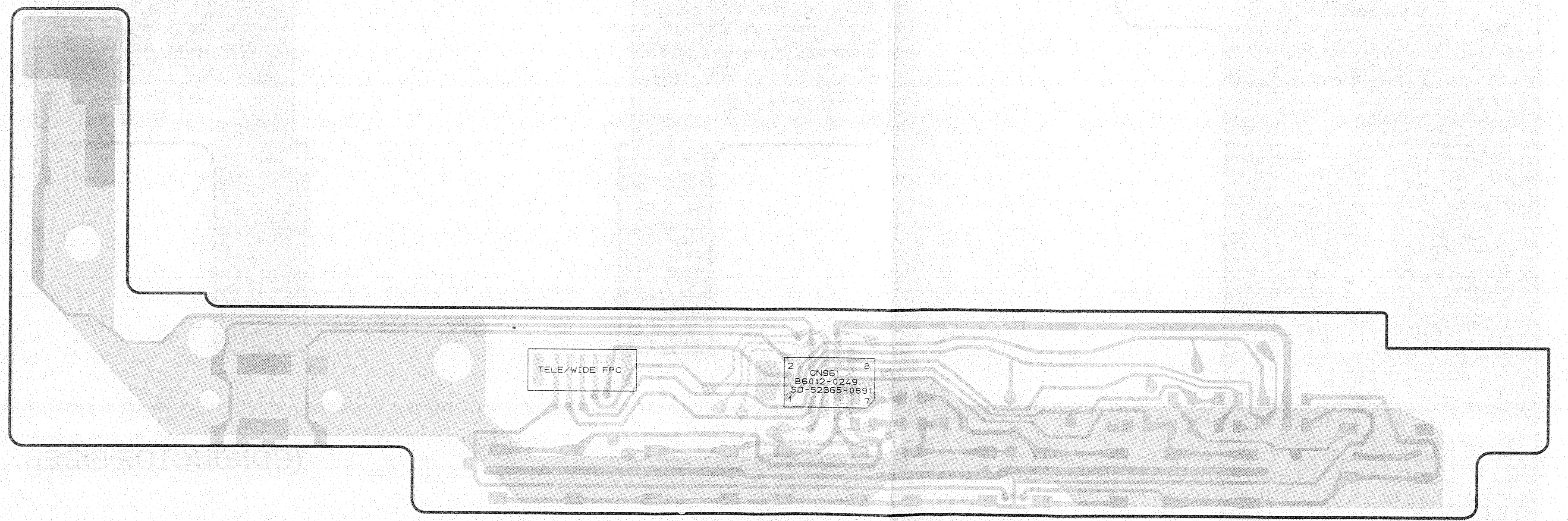

R987
100KD
R982
22KD
R983
33KD
R986
330KD
R985
120KD
R984
56KD
R981
15KD
Q961
2SC
4081
CN964

(CONDUCTOR SIDE)

6-5. FUNCTION VCR

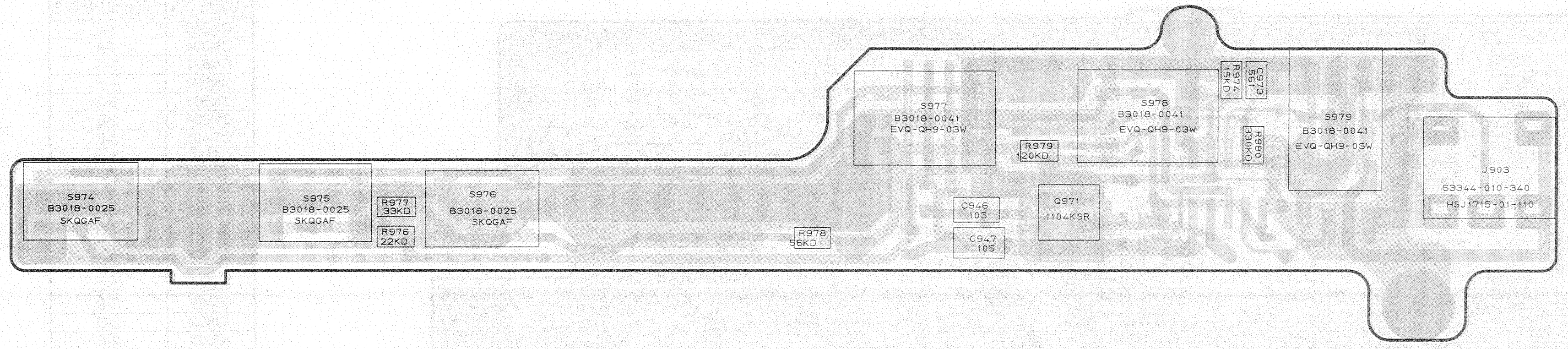

S972
B3018-0025
SKQGAF
R961
15KD
R973
330KD
R971
56KD
R970
33KD
R967
15KD
R972
120KD
R969
22KD
R968
100KD
R963
22KD
R962
100KD
R964
33KD
R965
56KD
R966
120KD
S973
B3006-0083
HSW0882-510021
S971
B3018-0025
SKQGAF
S970
B3018-0025
SKQGAF
S962
B3018-0025
SKQGAF
S963
B3018-0025
SKQGAF
S961
B3018-0025
SKQGAF
S964
B3018-0025
SKQGAF
S965
B3018-0025
SKQGAF

(COMPONENT SIDE)

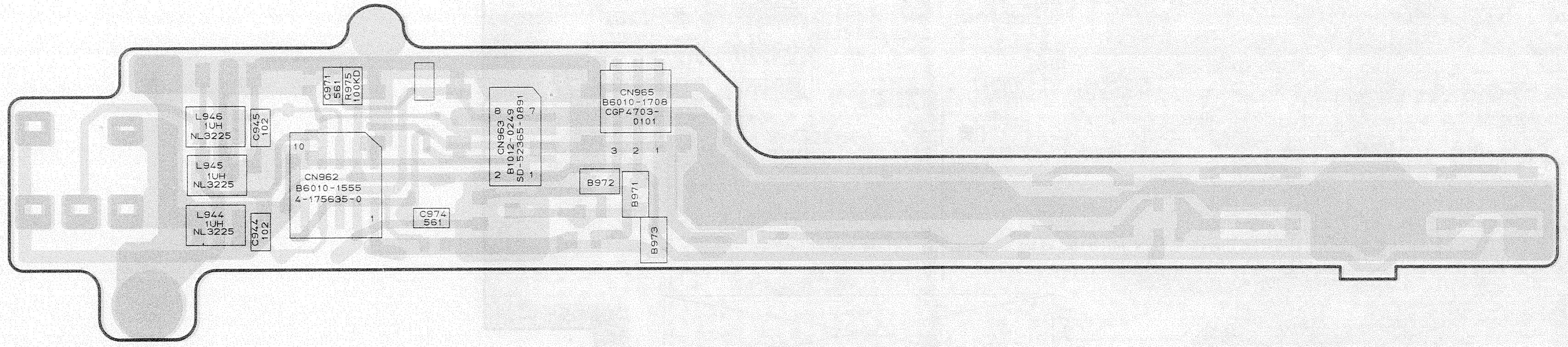

TELE/WIDE FPC
2
8
CN961
B6012-0249
SD-52365-0891
1
7

(CONDUCTOR SIDE)

6-6. FUNCTION CAMERA

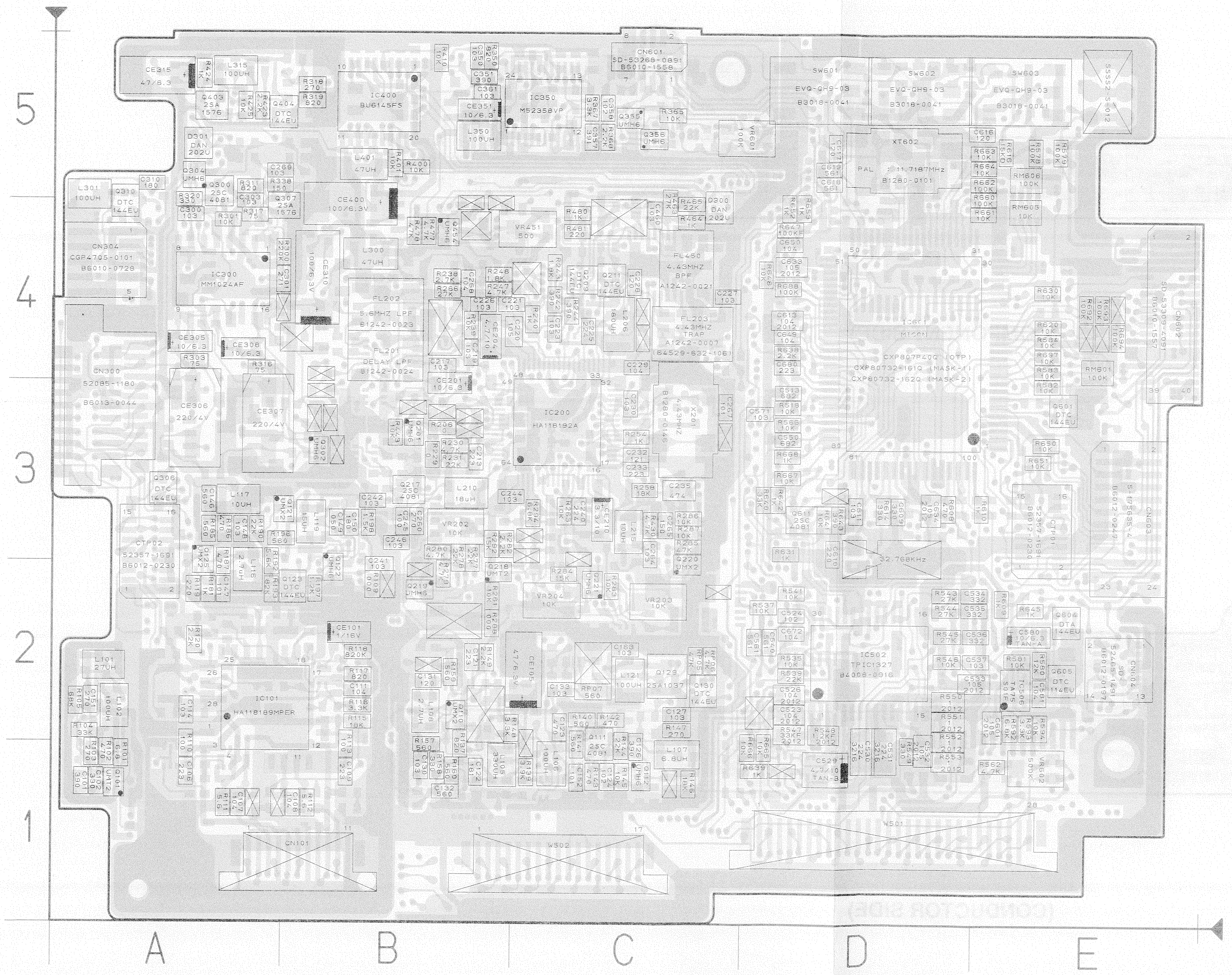

S974
B3018-0025
SKQGAF
S975
B3018-0025
SKQGAF
R977
33KD
R976
22KD
S976
B3018-0025
SKQGAF
R978
56KD
S977
B3018-0041
EVQ-QH9-03W
R979
120KD
C946
103
C947
105
Q971
1104KSR
S978
B3018-0041
EVQ-QH9-03W
R974
15KD
C973
561
R980
330KD
S979
B3018-0041
EVQ-QH9-03W
J903
63344-010-340
HSJ1715-01-110

(COMPONENT SIDE)


L946
1UH
NL3225
C945
102
L945
1UH
NL3225
L944
1UH
NL3225
C944
102
C971
561
R975
100KD
10
CN962
B6010-1555
4-175635-0
1
C974
561
8
7
CN963
B1012-0249
SD-52365-0891
2
1
CN965
B6010-1708
CGP4703-
0101
3
2
1
B972
B971
B973

(CONDUCTOR SIDE)

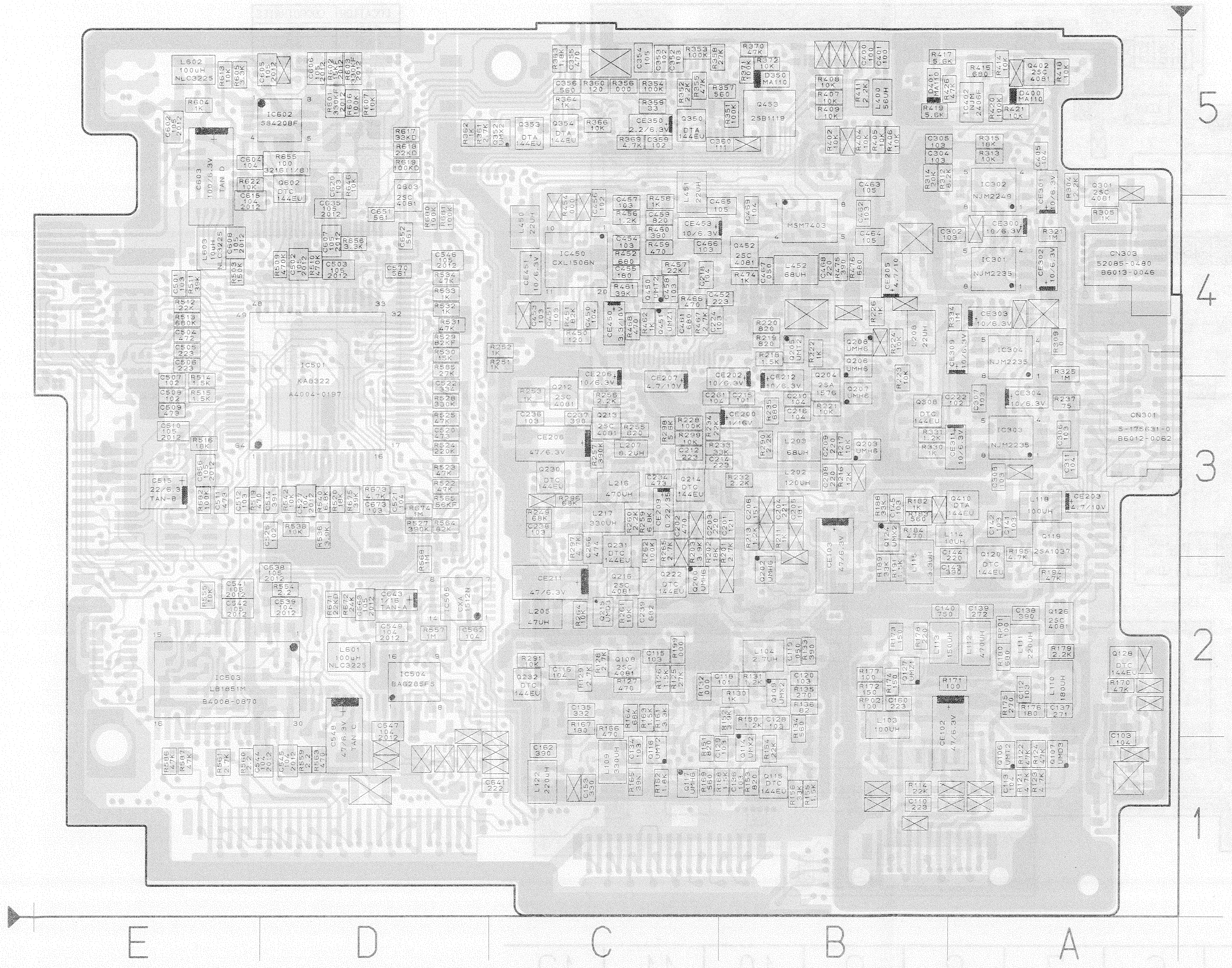
6-7. VCR MAIN


5
4
3
2
1
A
B
C
D
E
CN601
IC400
BU6145FS
IC350
M52358VP
SW601
SW602
SW603
EVQ-QH9-03
XT602
CN304
IC300
MM1024AF
FL202
FL201
VR451
FL450
4.43MHZ
BPF
FL203
4.43MHZ
TRAP
CN300
CE306
CE307
IC200
HA118192A
X201
IC601
CXP807P40Q (OTP)
CN602
CTP02
CTP01
32.768KHz
CN603
IC502
TPIC1327
CN604
IC101
HA118189MPER
CN101
W302
W501

(COMPONENT SIDE)

LOCATION	COORDINATES
CN300	3-A
CN304	4-A
CN601	5-C
CN602	4-E
CN603	3-E
CN604	2-E
CTP01	3-E
CTP02	3-A
D301	5-A
FL201	4-B
FL202	4-B
FL203	4-C
FL450	4-C
IC101	2-A
IC200	3-C
IC400	5-B
IC502	2-D
IC506	2-E
IC601	4-D
L101	2-A
L102	2-A
L105	1-B
L106	1-C
L107	1-C
L108	2-B
L116	2-A
L117	3-A
L119	3-B
L121	2-C
L206	4-C
L210	3-B
L215	3-C
L300	4-B
L301	5-A
L401	5-B
Q101	1-A
Q110	2-B

LOCATION	COORDINATES
Q111	2-C
Q112	1-C
Q121	3-A
Q122	2-B
Q123	2-B
Q125	3-A
Q129	2-C
Q130	2-C
Q209	4-C
Q210	4-C
Q211	4-C
Q216	2-B
Q217	3-B
Q218	2-B
Q221	2-C
Q300	5-A
Q302	3-B
Q304	5-A
Q306	3-A
Q310	5-A
Q403	5-A
Q404	5-A
Q455	4-B
Q601	3-E
Q604	2-E
Q606	2-E
SW601	5-D
SW602	5-D
SW603	5-E
SW604	5-E
VR202	3-B
VR203	2-C
VR204	2-C
VR451	4-C
VR601	5-D
X201	3-C
XT602	5-D

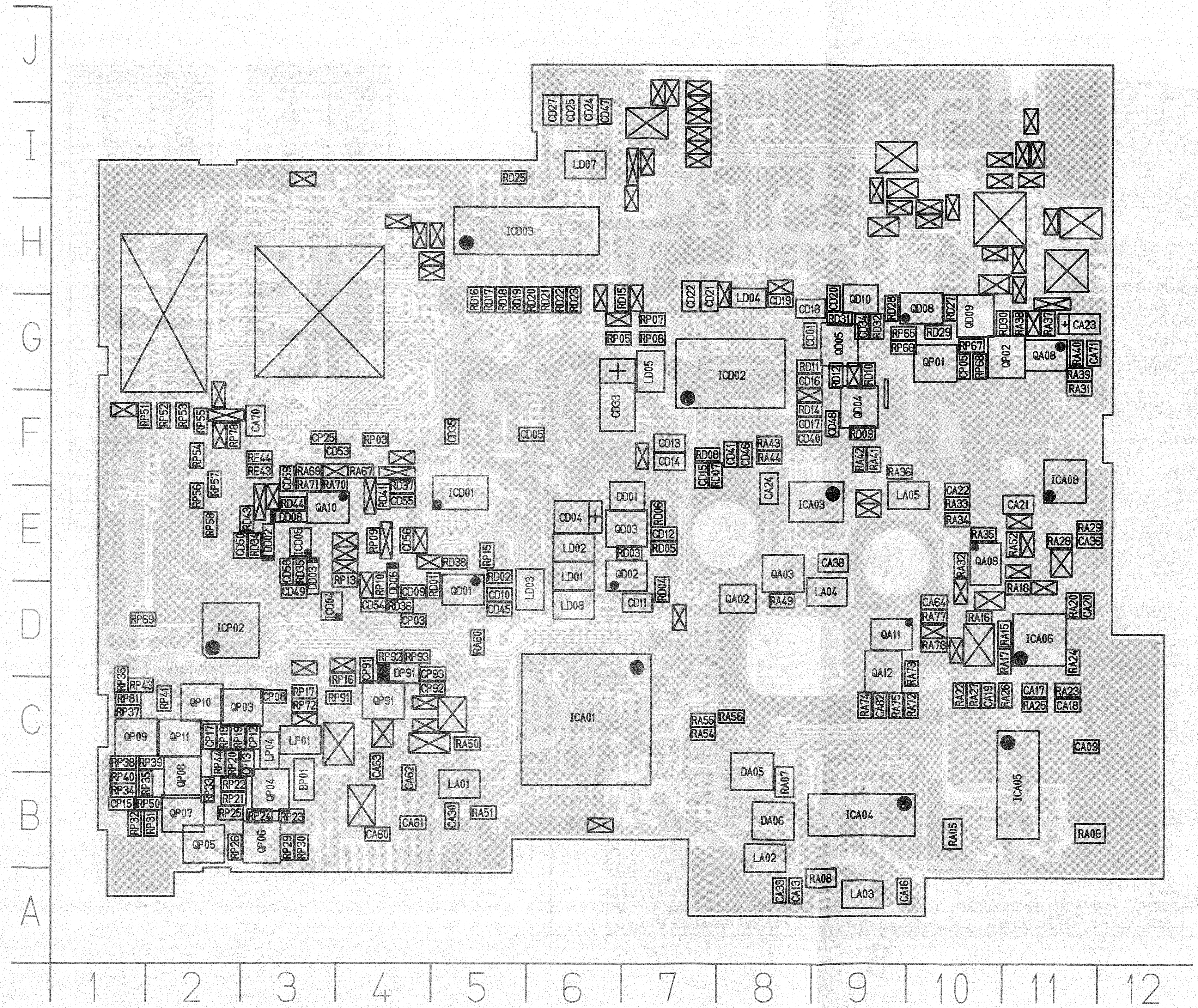

5
4
3
2
1
E
D
C
B
A
IC501
KA8322
IC503
LB1851M
IC504
BA6285FS
IC602
IC450
CXL1506N
MSM7403
IC302
NJM2249
IC301
NJM2235
IC304
NJM2235
IC303
NJM2235
CN303
CN301
Q453
2SB1119

(CONDUCTOR SIDE)

LOCATION	COORDINATES
D4002	5-A
IC301	4-A
IC303	3-A
IC304	4-A
IC402	5-A
IC450	4-C
IC451	4-B
IC501	4-D
IC503	2-E
IC504	2-D
IC505	2-D
IC602	5-D
L103	2-B
L104	2-B
L105	2-C
L109	1-C
L110	2-A
L112	2-A
L113	2-B
L114	3-A
L115	2-B
L118	3-A
L122	2-C
L203	3-B
L204	4-B
L207	3-C
L208	4-B
L400	5-B
L450	4-C
L451	4-C
L452	4-B
L601	2-D
L602	5-E
L603	4-E
Q106	1-A
Q107	1-A

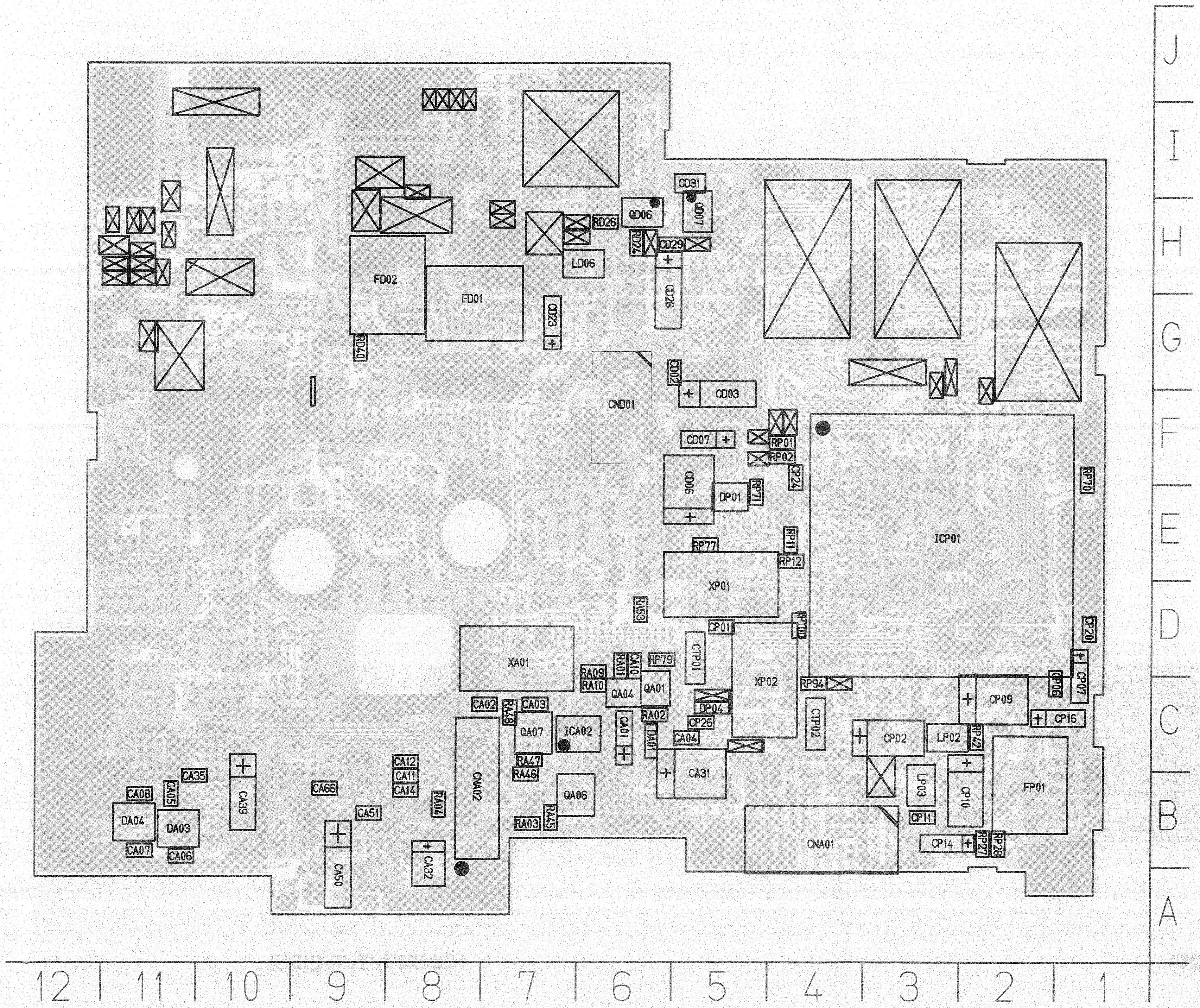
LOCATION	COORDINATES
Q108	2-C
Q109	2-B
Q114	1-B
Q115	1-B
Q116	1-C
Q117	1-C
Q119	3-A
Q120	2-A
Q126	2-A
Q127	2-B
Q128	2-A
Q202	2-B
Q203	3-B
Q204	3-B
Q205	4-B
Q206	4-B
Q207	3-B
Q208	4-B
Q212	3-C
Q213	3-C
Q214	3-C
Q215	2-C
Q216	2-C
Q232	2-C
Q306	3-B
Q402	4-A
Q450	4-C
Q451	4-C
Q452	4-B
Q453	5-B
Q602	5-D
Q603	5-D
Q606	1-D
Q607	1-D
Q608	1-D

6-8. CAMERA MAIN


J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
ICD03
ICD02
ICD01
ICP02
ICA01
ICA03
ICA04
ICA05
ICA06
ICA08
LD07
LD04
LD05
LD02
LD01
LD03
LD08
QD10
QD08
QD09
QD05
QD04
QD03
QD02
QD01
DD01
QP01
QP02
QP03
QP04
QP05
QP06
QP07
QP08
QP09
QP10
QP11
QP91
QA02
QA03
QA08
QA09
QA10
QA11
QA12
LA01
LA02
LA03
LA04
LA05
LP01
LP04
DA05
DA06
DP91
BP01
CA23
RP69

(CONDUCTOR SIDE)

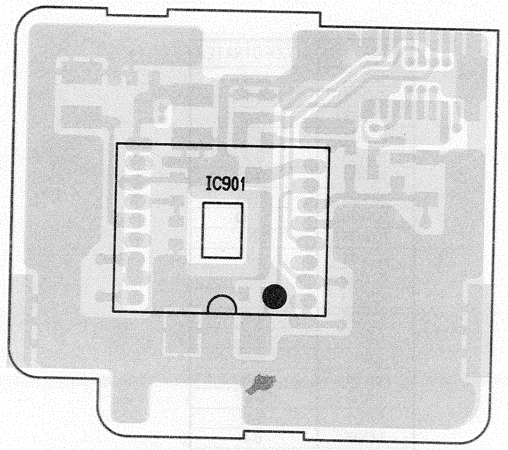
LOCATION	COORDINATES
CA01	6-C
CA31	5-B
CNA01	4-B
CNA02	8-B
CND01	6-F
CP02	3-C
CP07	1-D
CP09	2-C
CP10	2-B
CP14	3-B
FD01	8-H
FD02	9-H
FP01	2-B
ICA02	7-C
ICP01	3-E
LD06	7-H
LP02	3-C
LP03	3-B
QA01	6-C
QA04	6-C
QA06	7-B
QA07	7-C
QD06	6-H
QD07	5-H
XA01	7-D
XP01	5-E


CD31
QD06
QD07
RD26
RD24
CD29
LD06
CD26
FD02
FD01
CD23
RD40
CND01
CD02
CD03
CD07
RP01
RP02
CP24
CD06
DP01
RP71
RP70
ICP01
RP77
RP11
RP12
XP01
RA53
CP01
RP10
CP20
CTP01
XA01
RA09
RA10
RA01
CA10
RP79
QA04
QA01
XP02
RP94
CP06
CP07
CP09
CP16
CA02
RA43
CA03
RA02
DP04
CP26
CTP02
QA07
ICA02
CA01
DA01
CA04
CP02
LP02
RP42
CA31
CA12
CA11
CA14
RA47
RA46
QA06
LP03
CP10
FP01
CA35
CA08
CA05
CA39
CA66
RA04
CNA02
RA45
CA51
RA03
CP11
CNA01
CP14
RP27
RP28
DA04
DA03
CA07
CA06
CA50
CA32
J
I
H
G
F
E
D
C
B
A
12
11
10
9
8
7
6
5
4
3
2
1

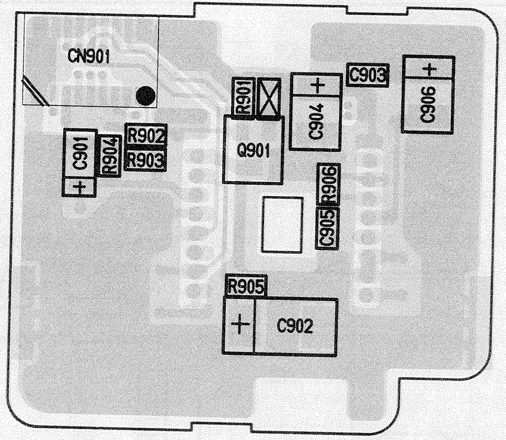
(COMPONENT SIDE)

LOCATION	COORDINATES
CA23	11-H
CD04	6-E
CD33	6-G
ICA01	6-C
ICA03	8-F
ICA04	9-B
ICA05	11-B
ICA06	11-D
ICA08	11-F
ICD01	5-F
ICD02	8-G
ICD03	5-H
ICD05	3-E
LA01	5-B
LA02	8-B
LA04	8-E
LA05	9-F
LD01	6-E
LD07	6-I
QA09	10-E
QA10	3-E
QA12	9-D
QD01	5-E
QD02	7-E
QD04	9-G
QP01	10-G
QP02	11-G
QP04	3-B
QP11	2-C

6-9. CCD

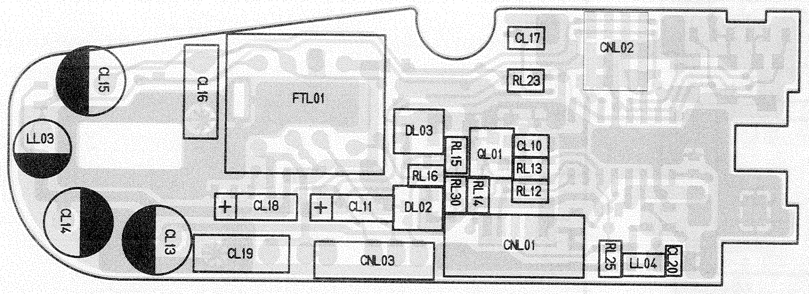


(COMPONENT SIDE)

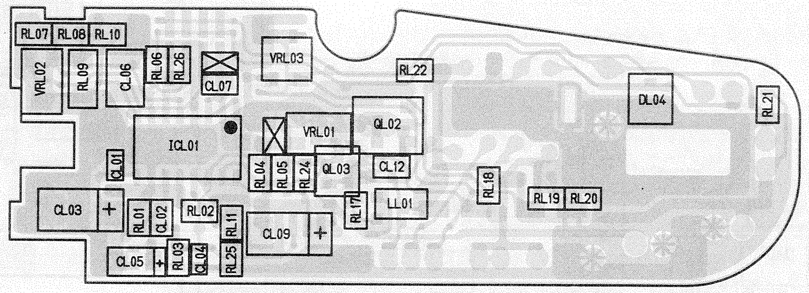

CN901
R901
C903
C906
C904
C901
R904
R902
R903
Q901
R906
C905
R905
C902

(CONDUCTOR SIDE)

6-10. E.V.F


CL15
CL16
FTL01
CL17
CNL02
RL23
LL03
DL03
RL15
QL01
CL10
RL16
RL13
RL30
RL14
RL12
CL14
CL13
CL18
CL11
DL02
CL19
CNL03
CNL01
RL25
LL04
CL20

(COMPONENT SIDE)


RL07
RL08
RL10
VRL02
RL09
CL06
RL06
RL26
CL07
VRL03
RL22
DL04
RL21
ICL01
VRL01
QL02
CL01
RL04
RL05
RL24
QL03
CL12
CL03
RL01
CL02
RL02
RL11
RL17
LL01
RL18
RL19
RL20
CL09
CL05
RL03
CL04
RL25

(CONDUCTOR SIDE)

7. SCHEMATIC DIAGRAMS

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7-8. FUNCTION CAMERA 7-10
7-9. FUNCTION ROTARY 7-11
7-10. E.V.F 7-12
7-11. CCD 7-13
7-12. DRIVE 7-14
7-13. A/F 7-15
7-14. PROCESS 7-16
7-15. ADAPTOR 7-17

NOTE

- For Schematic Diagram
  - Resistors are in ohms, 1/8W unless otherwise noted.
  - Circled numbers refer to waveforms.

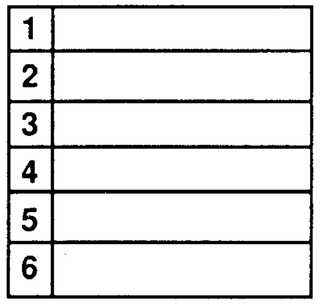
SPECIAL NOTE :
All integratedcircuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "electrostically sensitive (ES) devices" section of this service manual.

NOTE :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list. And may be slightly different or amended since this drawing was prepared.

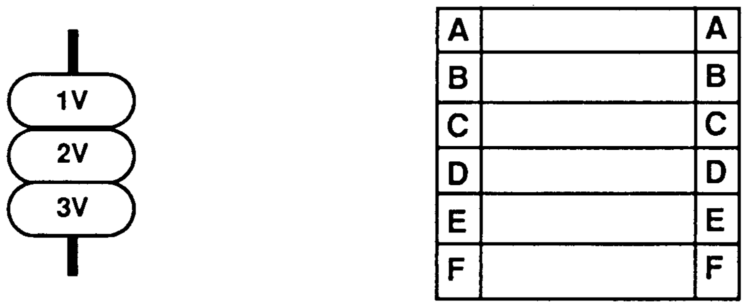
INFORTANT SAFETY NOTICES :
Components identified with the mark ⚠ have the special characteristics for safety when replacing any of these components. Use only the same type.

GENERAL INFORMATION

- The type of connecting connector to schematics.

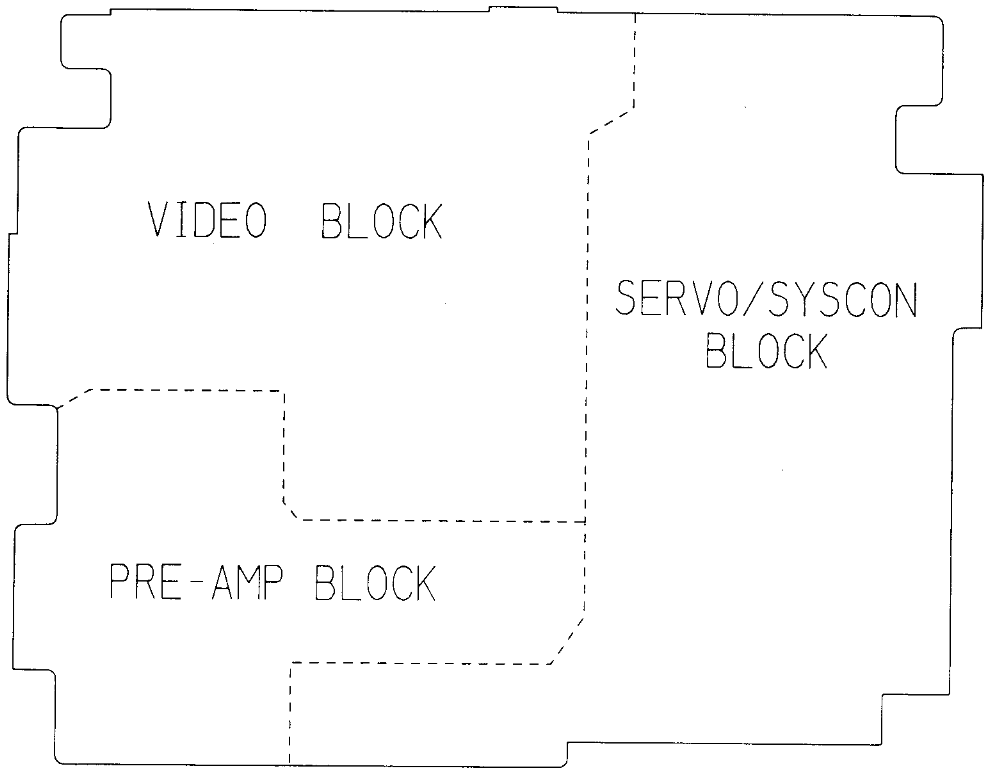


- The type of connecting pattern to schematics.

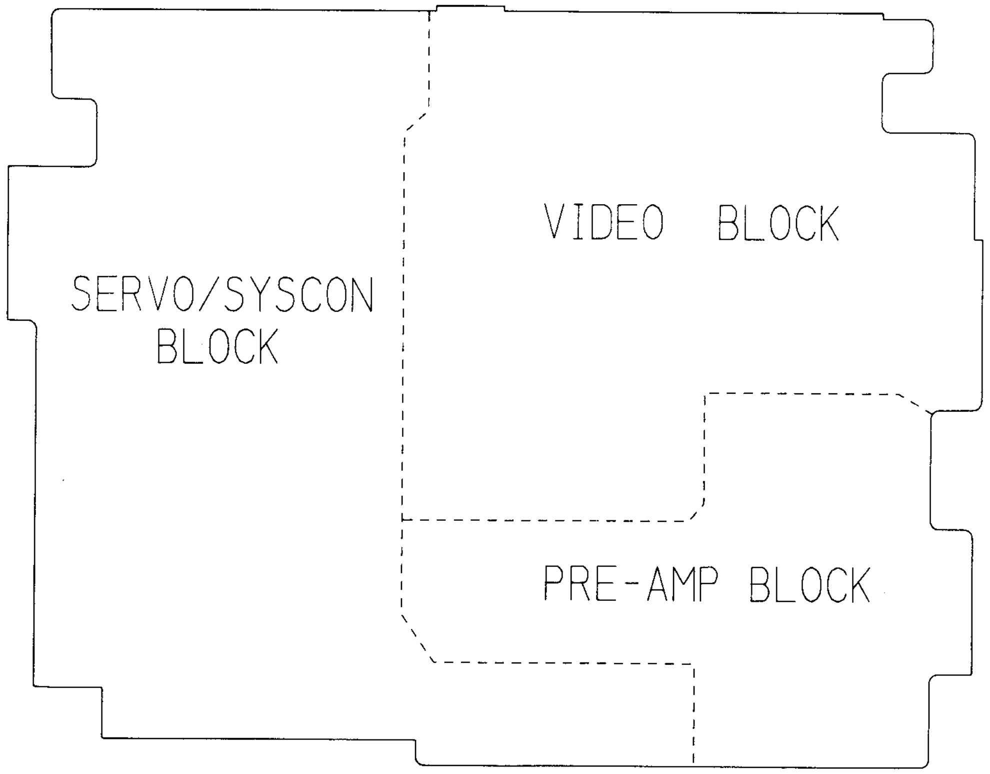


* BLOCK IDENTIFICATION OF VCR/ CAMERA MAIN PCB

VCR MAIN PCB

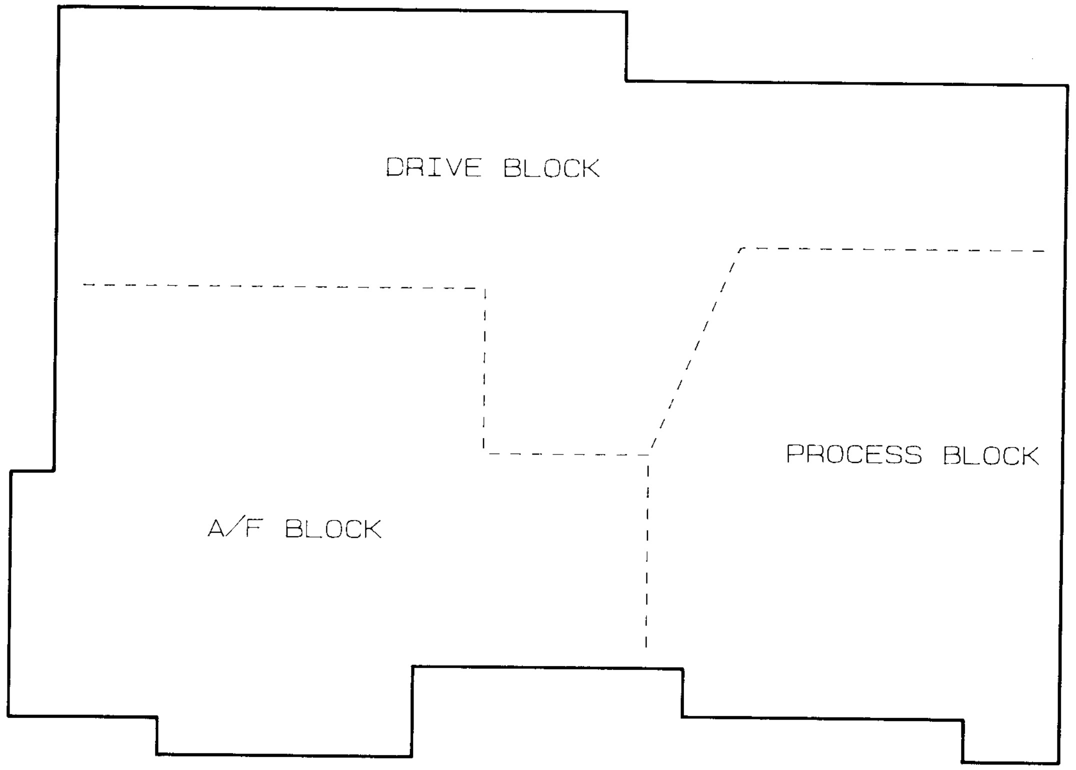

VIDEO BLOCK
SERVO/SYSCON BLOCK
PRE-AMP BLOCK

(COMPONENT SIDE)

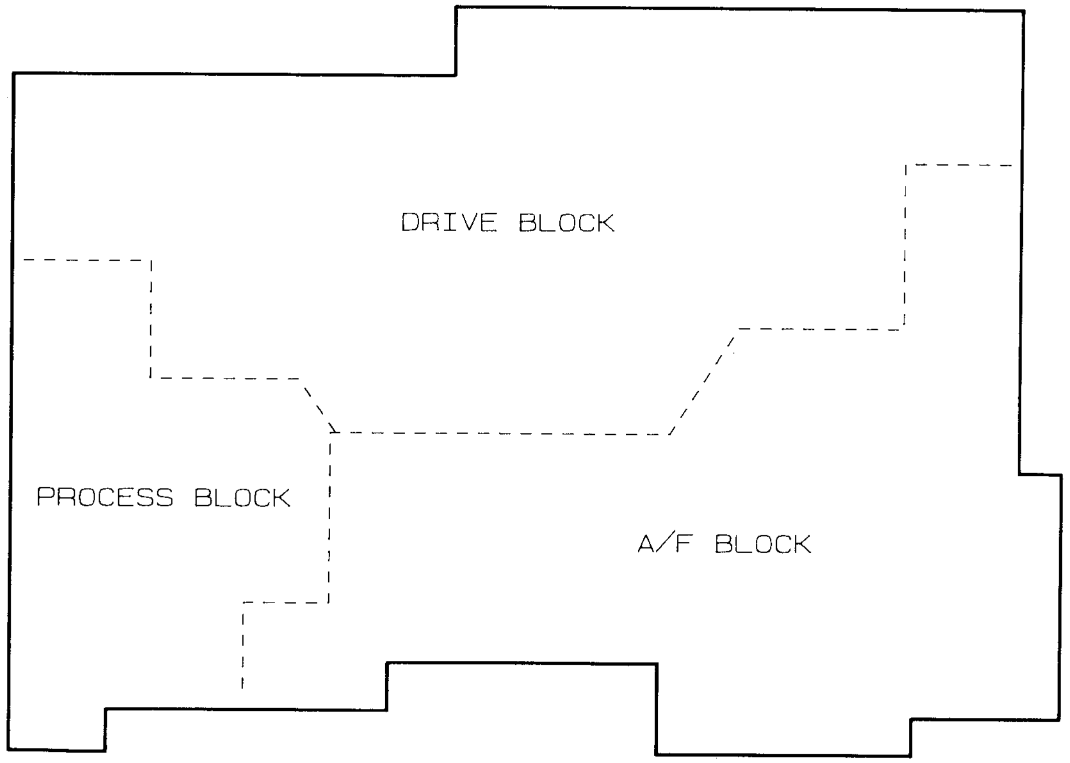

VIDEO BLOCK
SERVO/SYSCON BLOCK
PRE-AMP BLOCK

(CONDUCTOR SIDE)

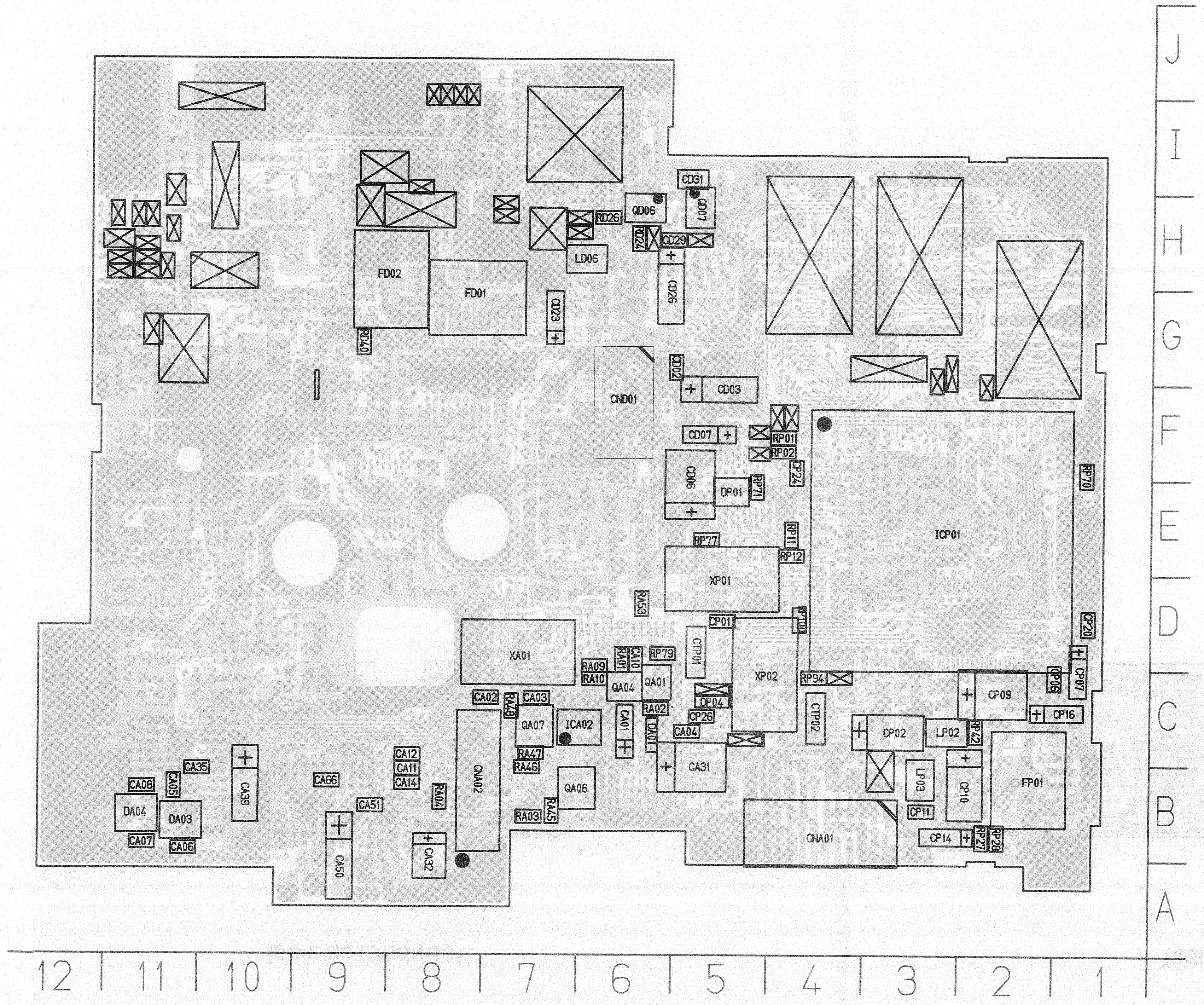
CAMERA MAIN PCB


DRIVE BLOCK
PROCESS BLOCK
A/F BLOCK

(COMPONENT SIDE)


DRIVE BLOCK
PROCESS BLOCK
A/F BLOCK

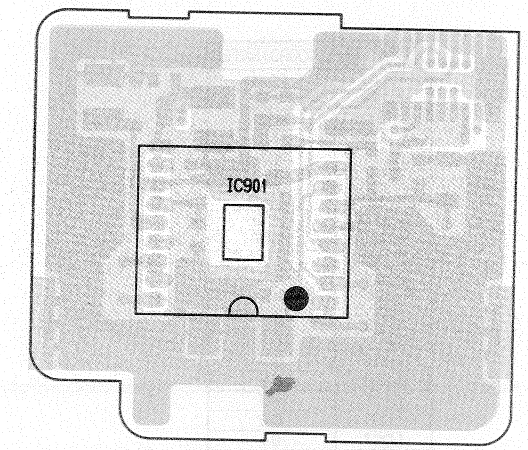
(CONDUCTOR SIDE)


CD31
QD06
QD07
RD26
RD24
CD29
LD06
FD02
FD01
RD40
CD23
CD26
CND01
CD02
CD03
CD07
RP01
RP02
CP24
CD06
DP01
RP71
RP70
ICP01
RP77
RP11
RP12
XP01
RA53
CP01
CTP01
XP02
CP20
CP07
CP09
CP16
XA01
RA09
RA10
RA01
CA10
RP79
QA04
QA01
RP94
CA02
RA48
CA03
RA02
DP04
CP26
CA01
DA01
CA04
CTP02
CP02
LP02
RP42
QA07
ICA02
CA31
RA47
RA46
CA12
CA11
CA14
CA66
RA04
CNA02
QA06
CA51
RA45
RA03
CA35
CA08
CA05
CA39
DA04
DA03
CA07
CA06
CA50
CA32
LP03
CP10
FP01
CP11
CNA01
CP14
RP27
RP28
J
I
H
G
F
E
D
C
B
A
12
11
10
9
8
7
6
5
4
3
2
1

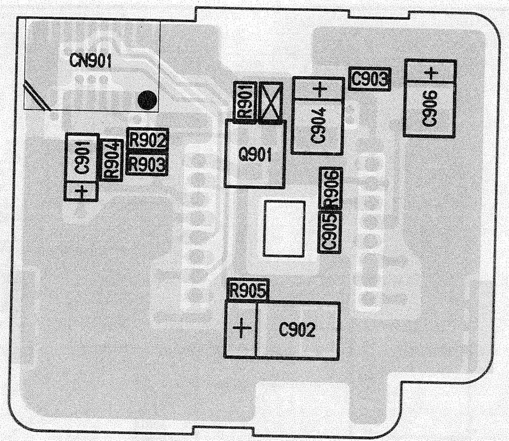
LOCATION	COORDINATES
CA23	11-H
CD04	6-E
CD33	6-G
ICA01	6-C
ICA03	8-F
ICA04	9-B
ICA05	11-B
ICA06	11-D
ICA08	11-F
ICD01	5-F
ICD02	8-G
ICD03	5-H
ICD05	3-E
LA01	5-B
LA02	8-B
LA04	8-E
LA05	9-F
LD01	6-E
LD07	6-I
QA09	10-E
QA10	3-E
QA12	9-D
QD01	5-E
QD02	7-E
QD04	9-G
QP01	10-G
QP02	11-G
QP04	3-B
QP11	2-C

(COMPONENT SIDE)

6-9. CCD

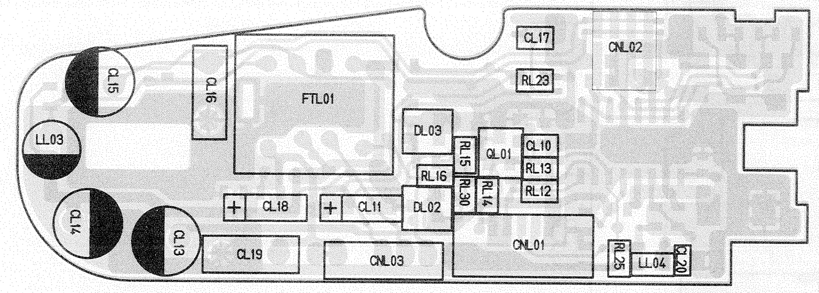


(COMPONENT SIDE)

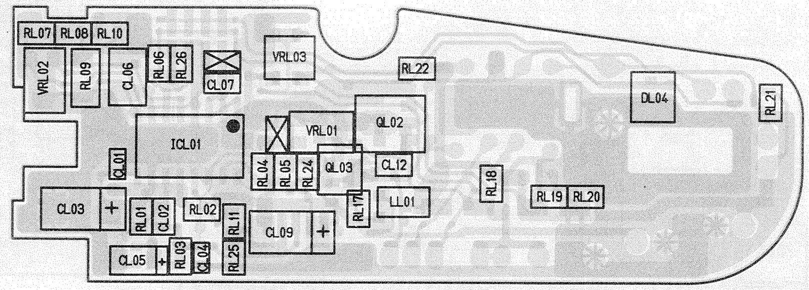

CN901
R901
C904
C903
C906
C901
R904
R902
R903
Q901
R906
C905
R905
C902

(CONDUCTOR SIDE)

6-10. E.V.F


CL15
CL16
FTL01
CL17
CNL02
RL23
LL03
DL03
RL15
QL01
CL10
RL13
RL16
RL30
RL14
RL12
CL18
CL11
DL02
CL14
CL13
CL19
CNL03
CNL01
RL25
LL04
CL20

(COMPONENT SIDE)


RL07
RL08
RL10
VRL02
RL09
CL06
RL06
RL26
CL07
VRL03
RL22
DL04
RL21
ICL01
VRL01
QL02
CL01
RL04
RL05
RL24
QL03
CL12
RL18
CL03
RL01
CL02
RL02
RL11
CL09
RL17
LL01
RL19
RL20
CL05
RL03
CL04
RL25

(CONDUCTOR SIDE)

7. SCHEMATIC DIAGRAMS

Page

* BLOCK IDENTIFICATION OF VCR/ CAMERA MAIN PCB - - 7-2
7-1. DC/DC CONVERTER - 7-3
7-2. SYSTEM COTROL/SERVO - - - - - - - - - - - - - - - - - 7-4
7-3. VIDEO - 7-5
7-4. PRE-AMP - 7-6
7-5. AUDIO - 7-7
7-6. MIC - 7-8
7-7. FUNCTION VCR - 7-9
7-8. FUNCTION CAMERA - - - - - - - - - - - - - - - - - - - 7-10
7-9. FUNCTION ROTARY - - - - - - - - - - - - - - - - - - - 7-11
7-10. E.V.F - 7-12
7-11. CCD - 7-13
7-12. DRIVE - 7-14
7-13. A/F - 7-15
7-14. PROCESS - 7-16
7-15. ADAPTOR - 7-17

NOTE

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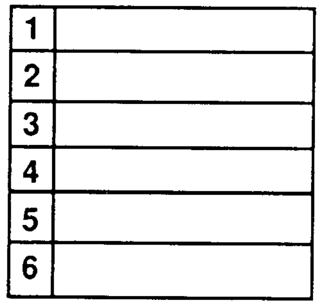
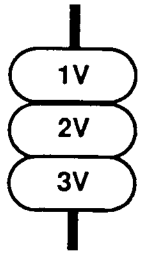
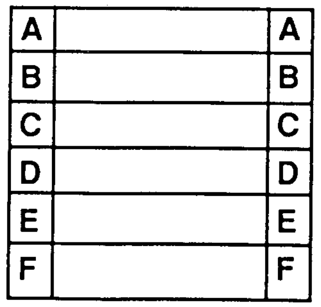


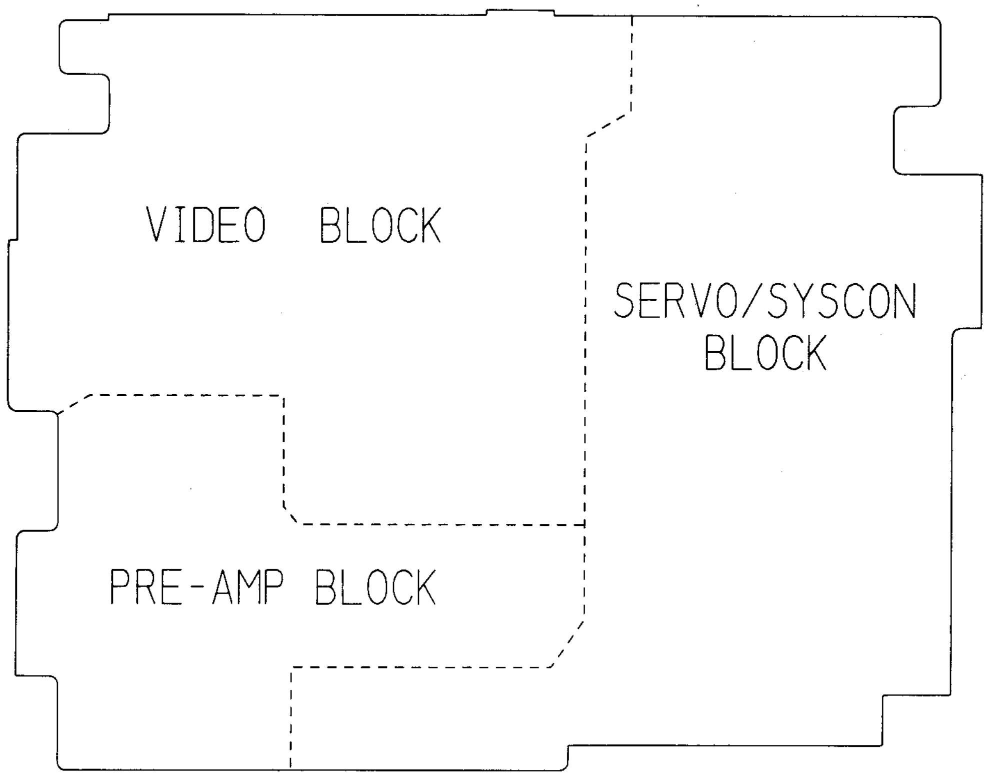
- The type of connecting pattern to schematics.



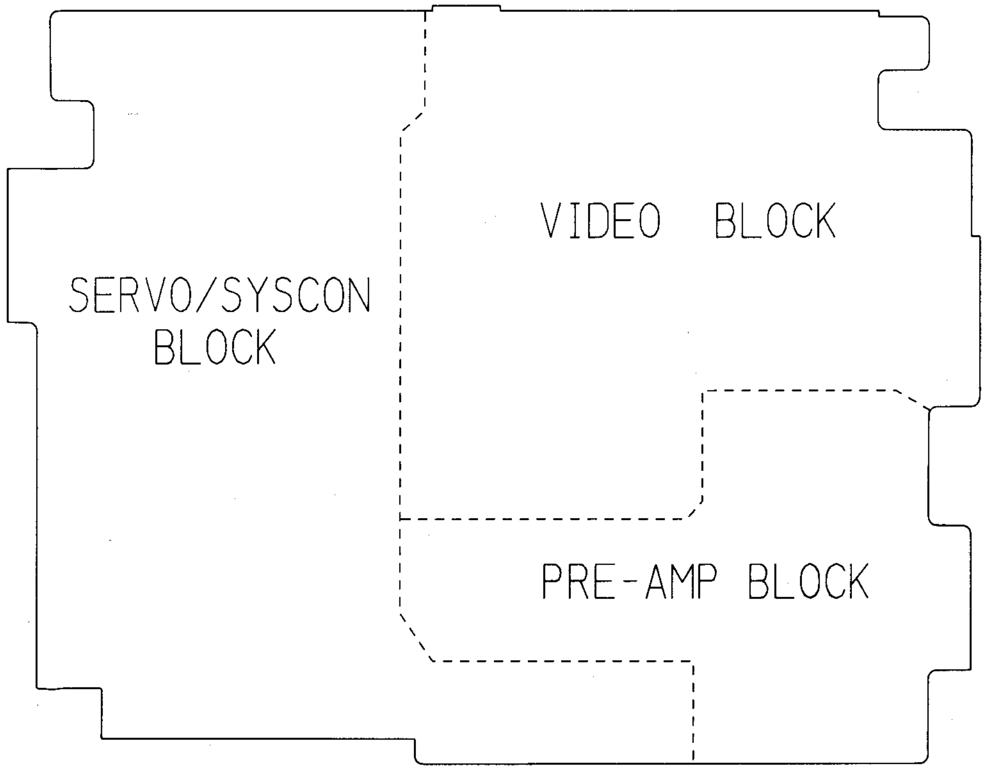


* BLOCK IDENTIFICATION OF VCR/ CAMERA MAIN PCB

VCR MAIN PCB


VIDEO BLOCK
SERVO/SYSCON BLOCK
PRE-AMP BLOCK

(COMPONENT SIDE)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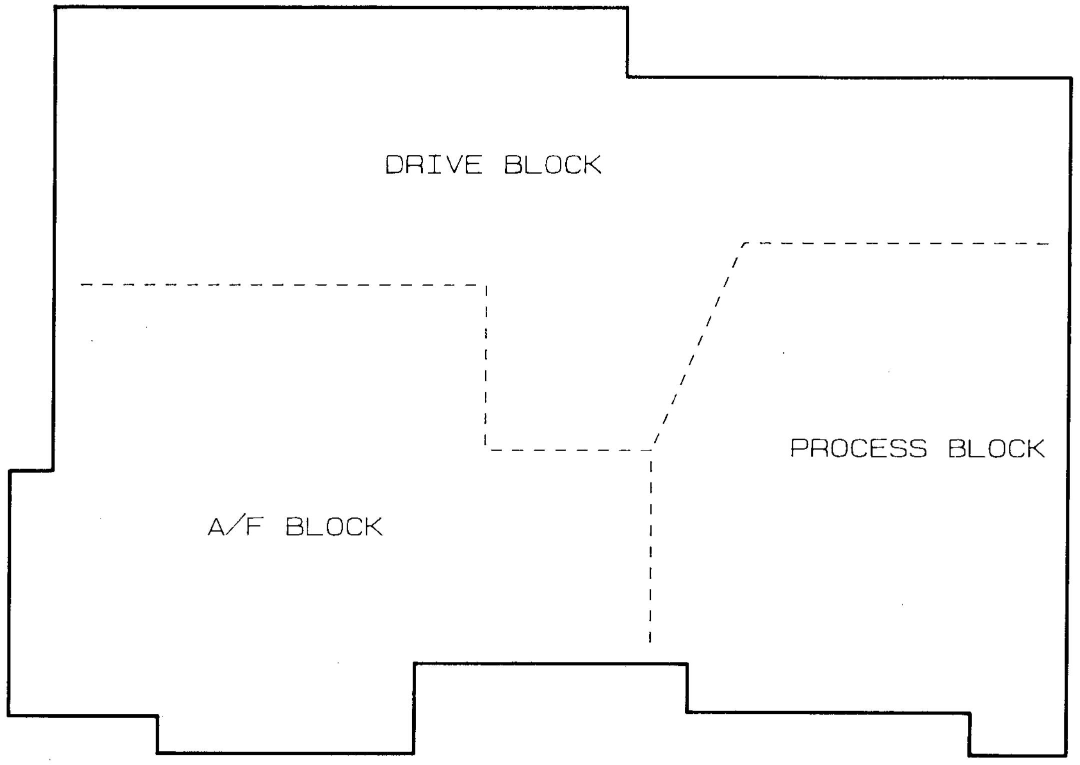
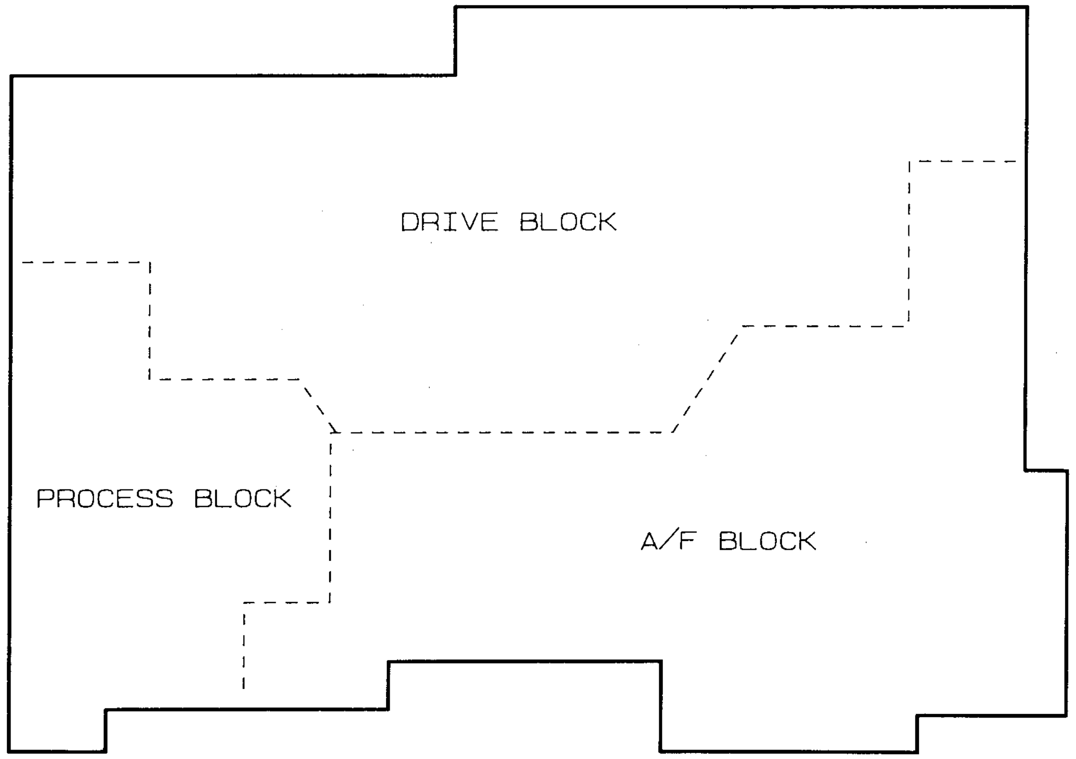
SERVO/SYSCON BLOCK
PRE-AMP BLOCK

(CONDUCTOR SIDE)

CAMERA MAIN PCB

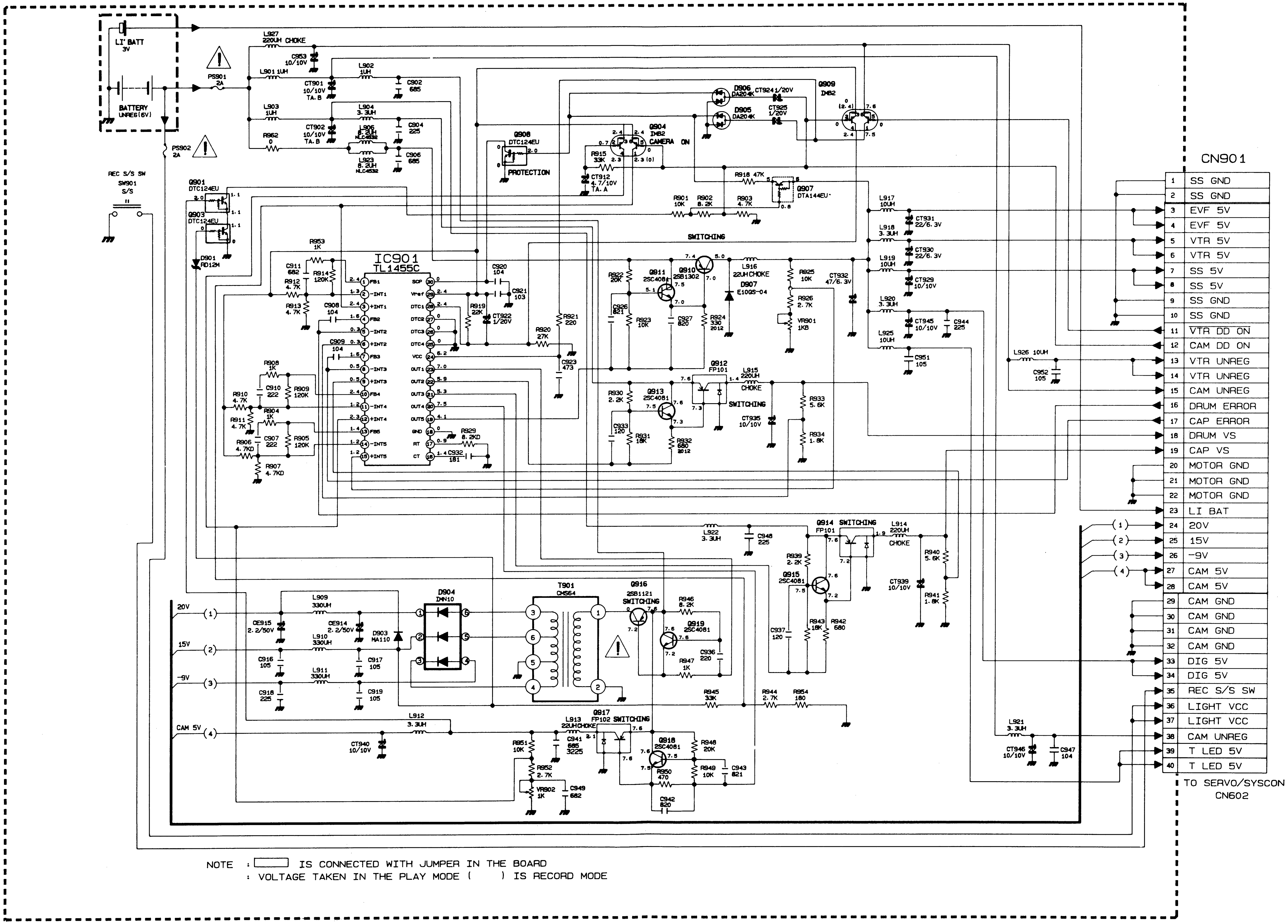

DRIVE BLOCK
PROCESS BLOCK
A/F BLOCK

(COMPONENT SIDE)


DRIVE BLOCK
PROCESS BLOCK
A/F BLOCK

(CONDUCTOR SIDE)

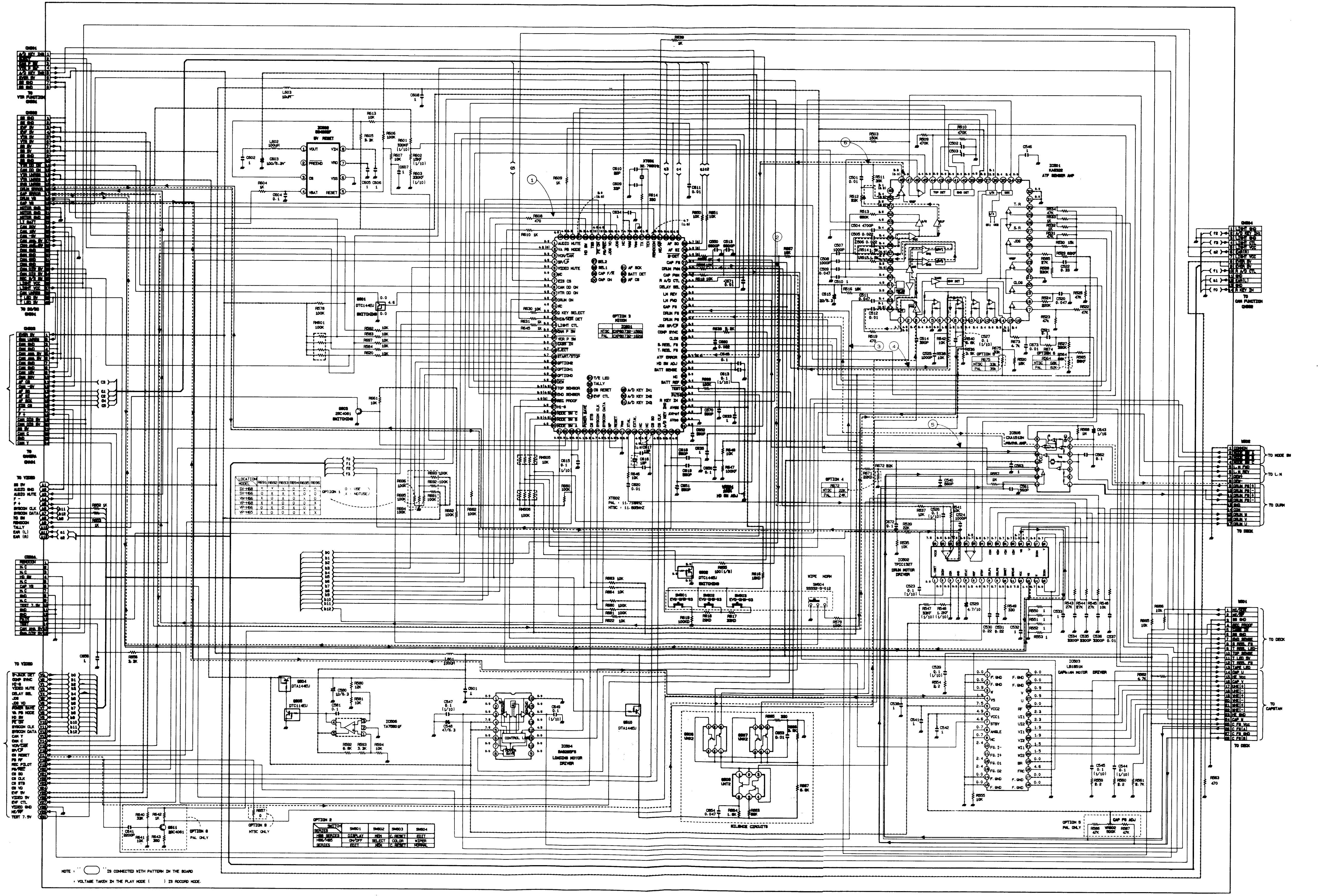
7-1. DC/DC CONVERTER


LI BATT 3V
BATTERY UNREG(6V)
PS901 2A
PS902 2A
REC S/S SW SW901 S/S
Q901 DTC124EU
Q903 DTC124EU
D901 RD12M
L927 220UH CHOKE
C953 10/10V
L901 1UH
CT901 10/10V TA.B
L902 1UH
C902 685
L903 1UH
L904 3.3UH
C904 225
CT902 10/10V TA.B
R962 0
L906 8.2UH NLC4532
L923 8.2UH NLC4532
C906 685
Q908 DTC124EU
PROTECTION
Q904 IMB2 CAMERA ON
R915 33K
CT912 4.7/10V TA.A
D906 DA204K
D905 DA204K
CT924 1/20V
CT925 1/20V
Q909 IMB2
R918 47K
Q907 DTA144EU
R901 10K
R902 8.2K
R903 4.7K
SWITCHING
IC901 TL1455C
R953 1K
C911 682
R914 120K
R912 4.7K
R913 4.7K
C908 104
C909 104
R908 1K
C910 222
R909 120K
R910 4.7K
R911 4.7K
R904 1K
C907 222
R905 120K
R906 4.7KD
R907 4.7KD
R929 8.2KD
C932 181
C920 104
C921 103
R919 22K
CT922 1/20V
R921 220
R920 27K
C923 473
R922 20K
Q911 2SC4081
Q910 2SB1302
L916 22UH CHOKE
D907 E10QS-04
R925 10K
R926 2.7K
VR901 1KB
CT932 47/6.3V
C926 821
R923 10K
C927 820
R924 330 2012
Q912 FP101
L915 220UH CHOKE
SWITCHING
R930 2.2K
Q913 2SC4081
C933 120
R931 18K
R932 680 2012
CT935 10/10V
R933 5.6K
R934 1.8K
L917 10UH
CT931 22/6.3V
L918 3.3UH
L919 10UH
CT930 22/6.3V
CT929 10/10V
L920 3.3UH
L925 10UH
CT945 10/10V
C944 225
C951 105
L926 10UH
C952 105
L922 3.3UH
C948 225
Q914 SWITCHING FP101
L914 220UH CHOKE
R939 2.2K
Q915 2SC4081
CT939 10/10V
R940 5.6K
R941 1.8K
C937 120
R943 18K
R942 680
20V (1)
15V (2)
-9V (3)
CAM 5V (4)
CE915 2.2/50V
L909 330UH
CE914 2.2/50V
D903 MA110
L910 330UH
C916 105
C917 105
L911 330UH
C918 225
C919 105
D904 IMN10
T901 CHS64
Q916 2SB1121 SWITCHING
R946 8.2K
Q919 2SC4081
C936 220
R947 1K
R945 33K
R944 2.7K
R954 180
L912 3.3UH
CT940 10/10V
L913 22UH CHOKE
Q917 FP102 SWITCHING
R951 10K
C941 685 3225
R952 2.7K
VR902 1K
C949 682
Q918 2SC4081
R948 20K
R949 10K
C943 821
R950 470
C942 820
L921 3.3UH
CT946 10/10V
C947 104
CN901
1 SS GND
2 SS GND
3 EVF 5V
4 EVF 5V
5 VTR 5V
6 VTR 5V
7 SS 5V
8 SS 5V
9 SS GND
10 SS GND
11 VTR DD ON
12 CAM DD ON
13 VTR UNREG
14 VTR UNREG
15 CAM UNREG
16 DRUM ERROR
17 CAP ERROR
18 DRUM VS
19 CAP VS
20 MOTOR GND
21 MOTOR GND
22 MOTOR GND
23 LI BAT
24 20V
25 15V
26 -9V
27 CAM 5V
28 CAM 5V
29 CAM GND
30 CAM GND
31 CAM GND
32 CAM GND
33 DIG 5V
34 DIG 5V
35 REC S/S SW
36 LIGHT VCC
37 LIGHT VCC
38 CAM UNREG
39 T LED 5V
40 T LED 5V
TO SERVO/SYSCON CN602

NOTE : ▭ IS CONNECTED WITH JUMPER IN THE BOARD
: VOLTAGE TAKEN IN THE PLAY MODE ( ) IS RECORD MODE

7-2. SYSTEM COTROL/SERVO

——— DRUM SPEED CONTROL
- - - - DRUM PHASE CONTROL
——— CAPSTAN SPEED CONTROL
- - - - CAPSTAN PHASE CONTROL


TO VTR FUNCTION
TO CAMERA
TO VIDEO
TO CAM FUNCTION
TO MODE SW
TO L.M
TO DRUM
TO DECK
TO CAPSTAN
IC601 KA8522 ATF SENSOR AMP
IC602 TPIC1327 DRUM MOTOR DRIVER
IC603 LB1851M CAPSTAN MOTOR DRIVER
IC604 BA6209FS LOADING MOTOR DRIVER
IC606 TA75S01F
SILENCE CIRCUITS
OPTION 8 PAL ONLY
OPTION 9 NTSC ONLY
OPTION 1
O : USE
X : NOTUSE

LOCATION / MODEL	R691	R692	R693	R694	R695	R696
SV-H68	X	X	X	O	O	O
SV-H66	O	X	X	X	O	O
VN-H66	X	O	X	O	X	O
VP-H68	X	X	O	O	O	X
VP-H66	O	X	O	X	O	X
VP-H65	X	O	O	O	X	X

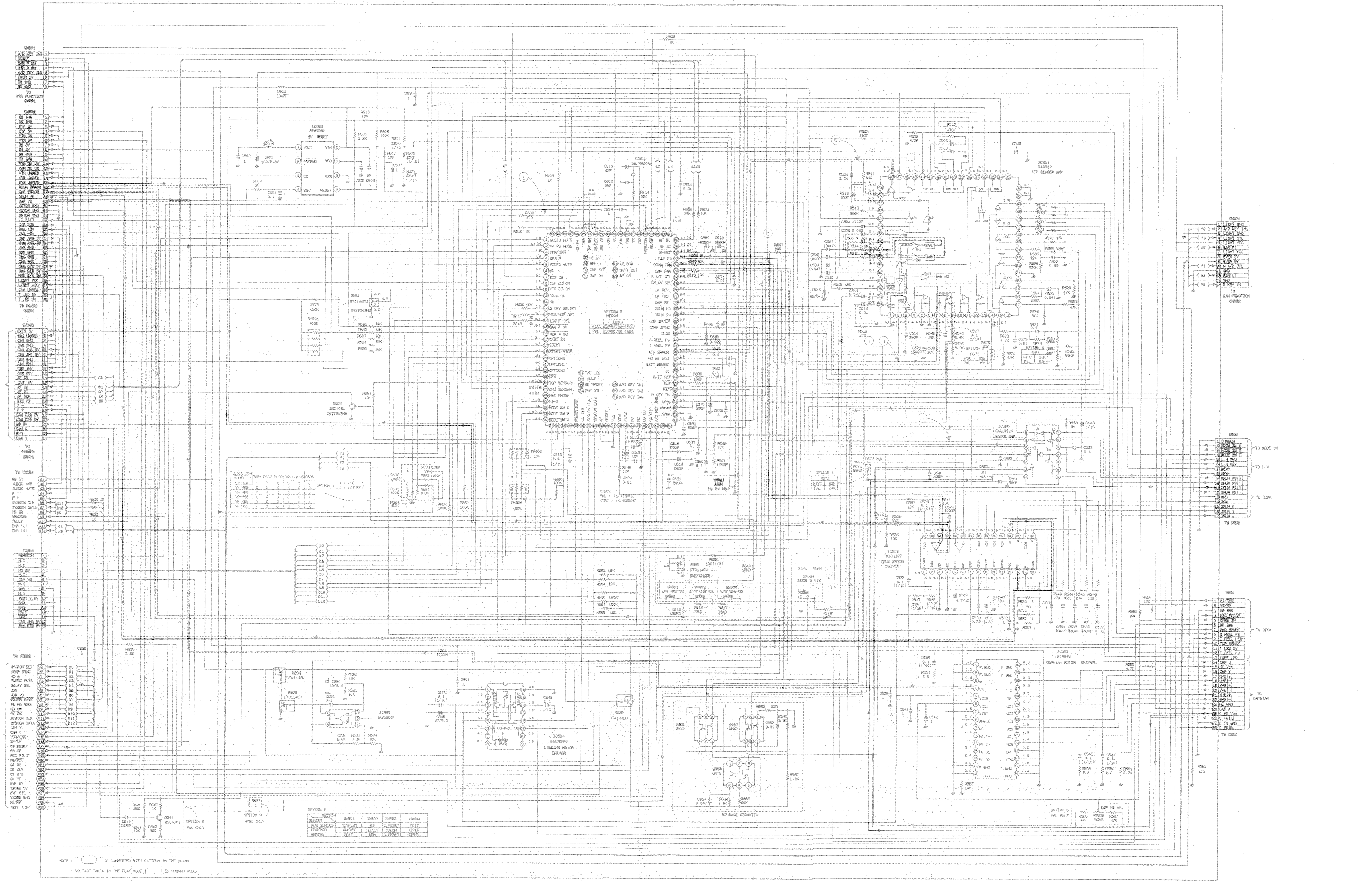
OPTION 2

SWITCH / SERIES	SW601	SW602	SW603	SW604
H68 SERIES	DISPLAY	MEM	C.RESET	EDIT
H66/H65	ON/OFF	SELECT	COLOR	WIPER
SERIES	EDIT	MEM	C.RESET	NORMAL

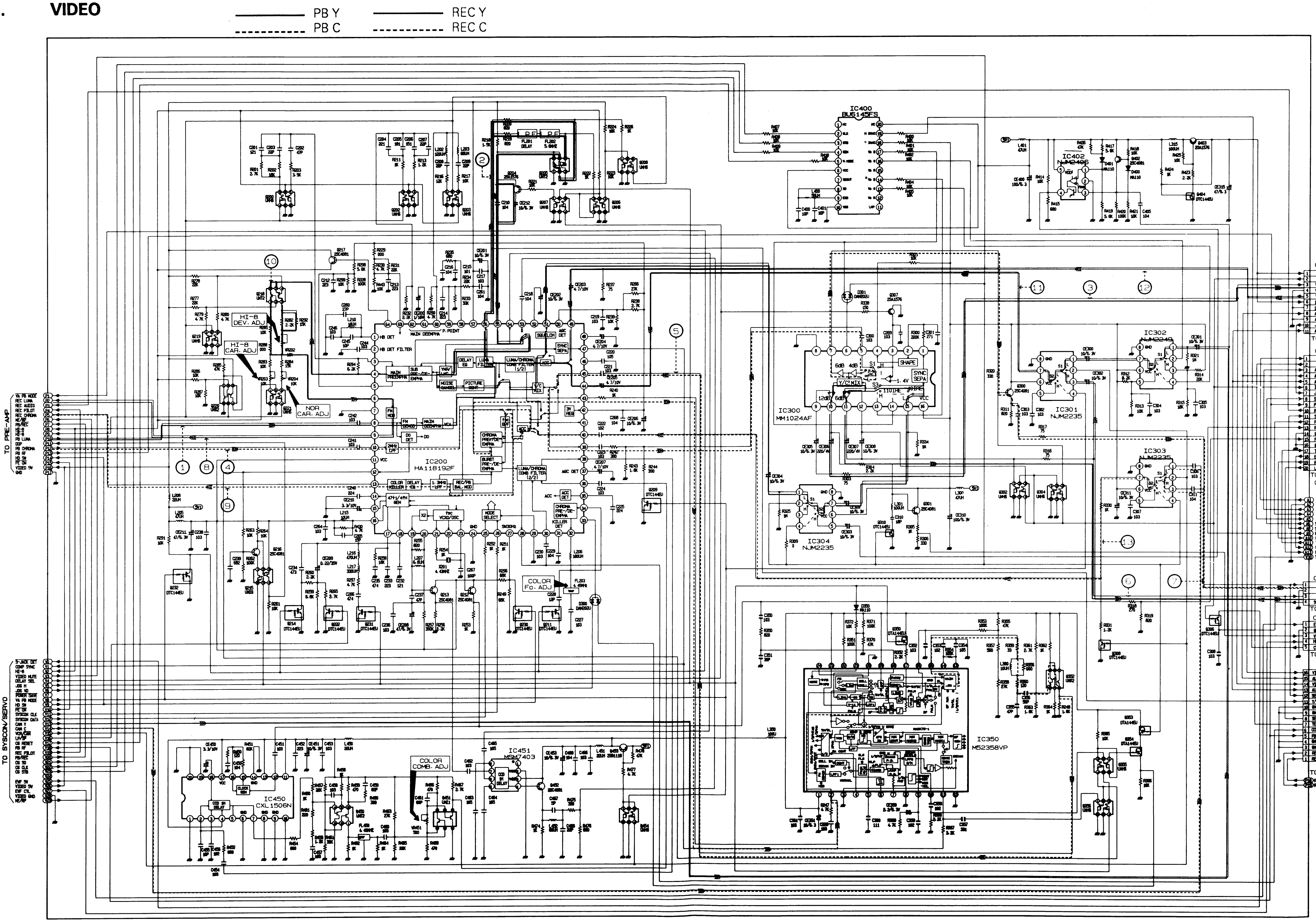
NOTE : " ⬭ " IS CONNECTED WITH PATTERN IN THE BOARD
: VOLTAGE TAKEN IN THE PLAY MODE (   ) IS ROCORD MODE.

7-2. SYSTEM COTROL/SERVO

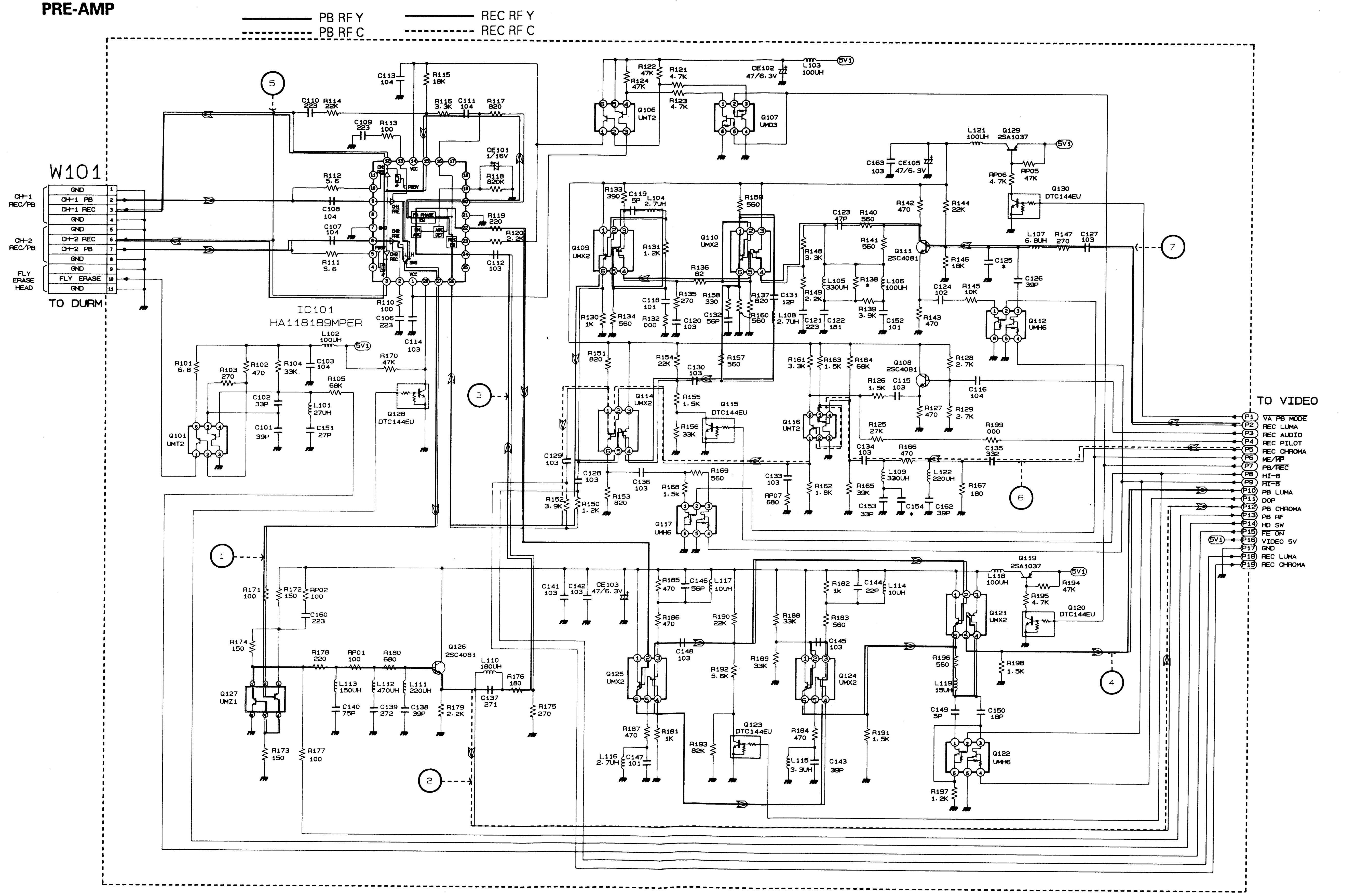
——— DRUM SPEED CONTROL
- - - - DRUM PHASE CONTROL
——— CAPSTAN SPEED CONTROL
- - - - CAPSTAN PHASE CONTROL


TO VTR FUNCTION
TO CAMERA
TO VIDEO
TO CAM FUNCTION
TO MODE SW
TO L.H
TO DRUM
TO DECK
TO CAPSTAN
ATF SENSOR AMP
DRUM MOTOR DRIVER
CAPSTAN MOTOR DRIVER
LOADING MOTOR DRIVER
SWITCHING
HD SW ADJ
SILENCE CIRCUITS
OPTION 2
OPTION 3
OPTION 4
OPTION 5
OPTION 8
NTSC ONLY
PAL ONLY
NOTE : IS CONNECTED WITH PATTERN IN THE BOARD
(VOLTAGE TAKEN IN THE PLAY MODE) [ ] IS RECORD MODE.

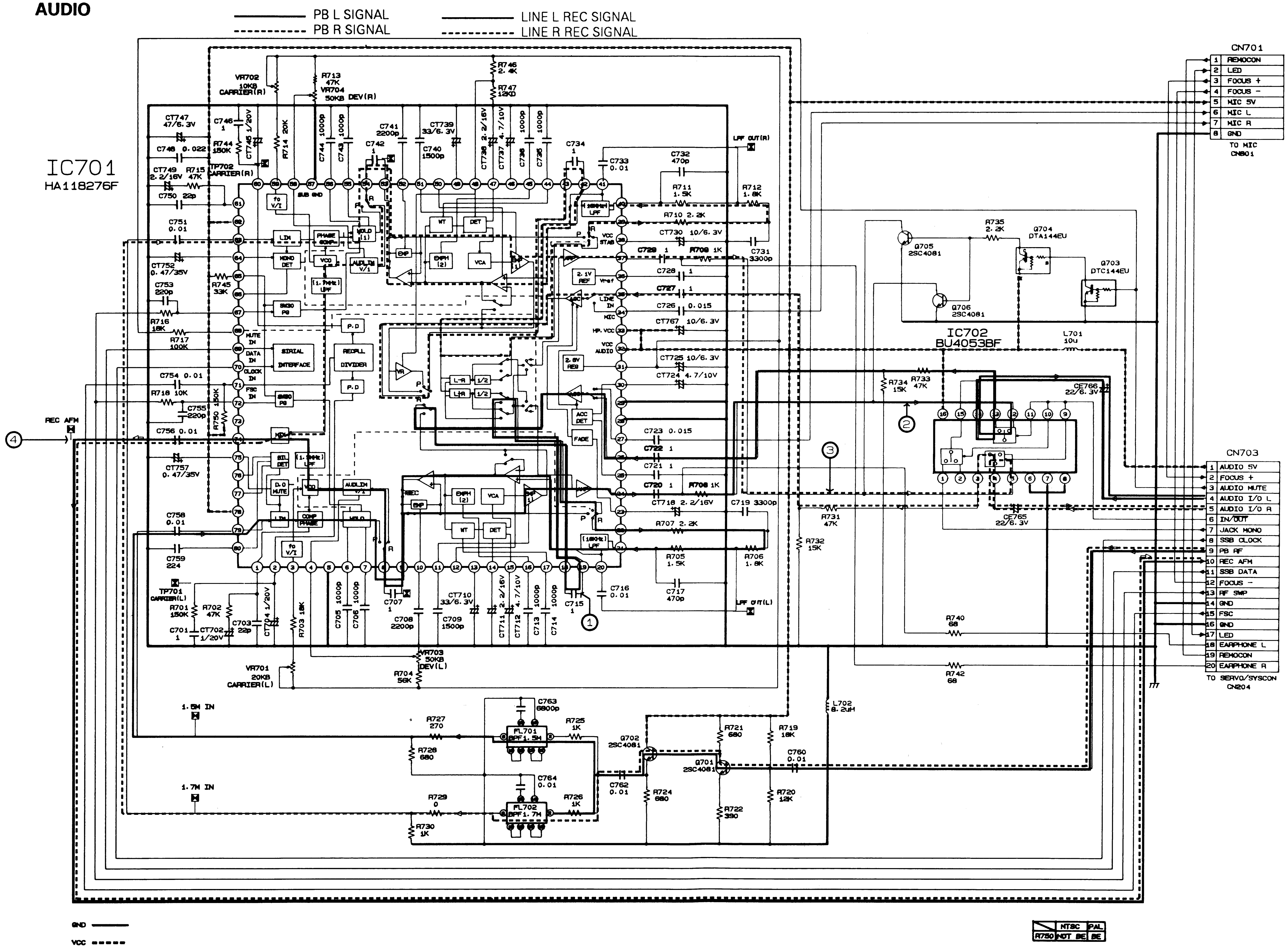
7-3. VIDEO


PB Y
PB C
REC Y
REC C
IC400
BU6145FS
IC402
NJM2406
IC200
HA118192F
MAIN DEEMPHA
SUB PRE-/DE-EMPHA
MAIN PREEMPHA
NOISE CANCEL
PICTURE CONT
LUMA/CHROMA COMB FILTER (1/2)
SYNC SEPA
AGC DET
COLOR KILLER
REC/PB BAL. ADJ
VCXO/OSC
MODE SELECT
CHROMA PRE-/DE-EMPHA
BURST PRE-/DE-EMPHA
ACC DET
KILLER DET
HI-8 DEV. ADJ
HI-8 CAR. ADJ
NOR CAR. ADJ
COLOR Fo. ADJ
IC300
MM1024AF
Y/C MIX
SHAPE
IC301
NJM2235
IC302
NJM2249
IC303
NJM2235
IC304
NJM2235
IC350
M52358VP
IC450
CXL1506N
CCD 1H DELAY
IC451
MSM7403
COLOR COMB. ADJ
TO PRE-AMP
VA PB MODE
REC LUMA
REC AUDIO
REC PILOT
REC CHROMA
NE/RP
PB/REC
HI-8
HI-8
PB LUMA
DOP
PB CHROMA
PB RF
HD SW
FE ON
VIDEO 5V
GND
TO SYSCON/SERVO
S-JACK DET
COMP SYNC
HI-8
VIDEO MUTE
DELAY SEL
JOG H
JOG VD
POWER SAVE
VA PB MODE
HD SW
FE ON
SYSCON CLK
SYSCON DATA
CAM Y
CAM C
VCR/CAM
LP/SP
CG RESET
PB RF
REC PILOT
PB/REC
CG SO
CG CLK
CG STB
EVF 5V
VIDEO 5V
EVF CTL
VIDEO GND
NE/RP
CN300
VCC(5V)
IN/OUT
VIDEO OUT
VIDEO GND
VIDEO IN
DC OUT (5V)
DC OUT GND
AUDIO I/O L
AUDIO GND
JACK MONO
AUDIO I/O R
TO IN/OUT
CN301
SS 5V
FOCURS +
AUDIO MUTE
AUDIO I/O L
AUDIO I/O R
IN/OUT
JACK MONO
SSB CLOCK
PB RF
REC AFM
SSB DATA
FOCURS -
RF SWP
GND
FSC
GND
TALLY
EARPHON L
REM. CONT.
EARPHON R
TO AUDIO
CN703
SS 5V
AUDIO GND
AUDIO MUTE
F -
F +
SYSCON CLK
SYSCON DATA
HD SW
REMOCON
TALLY
EAR (L)
EAR (R)
TEST 7.5V
TO SERVO/SYSCON
CN303
SEP C
GND
SEP Y
S-JACK DET
TO S-JACK
CN304
EVF 5V
GND
VIDEO
HD
CTRL
TO LCD EVF
CNL01
VIDEO IN
AUDIO I/O L
VIDEO OUT
AUDIO I/O R
SEP C
Y/C SEPARATE
GND
GND
SEP Y
TEST 7.5V
CCD COMB
PB RF
GND
GND
REC CHROMA
REC LUMA
TO PRE-AMP
REC LUMA
REC CHROMA

7-4. PRE-AMP

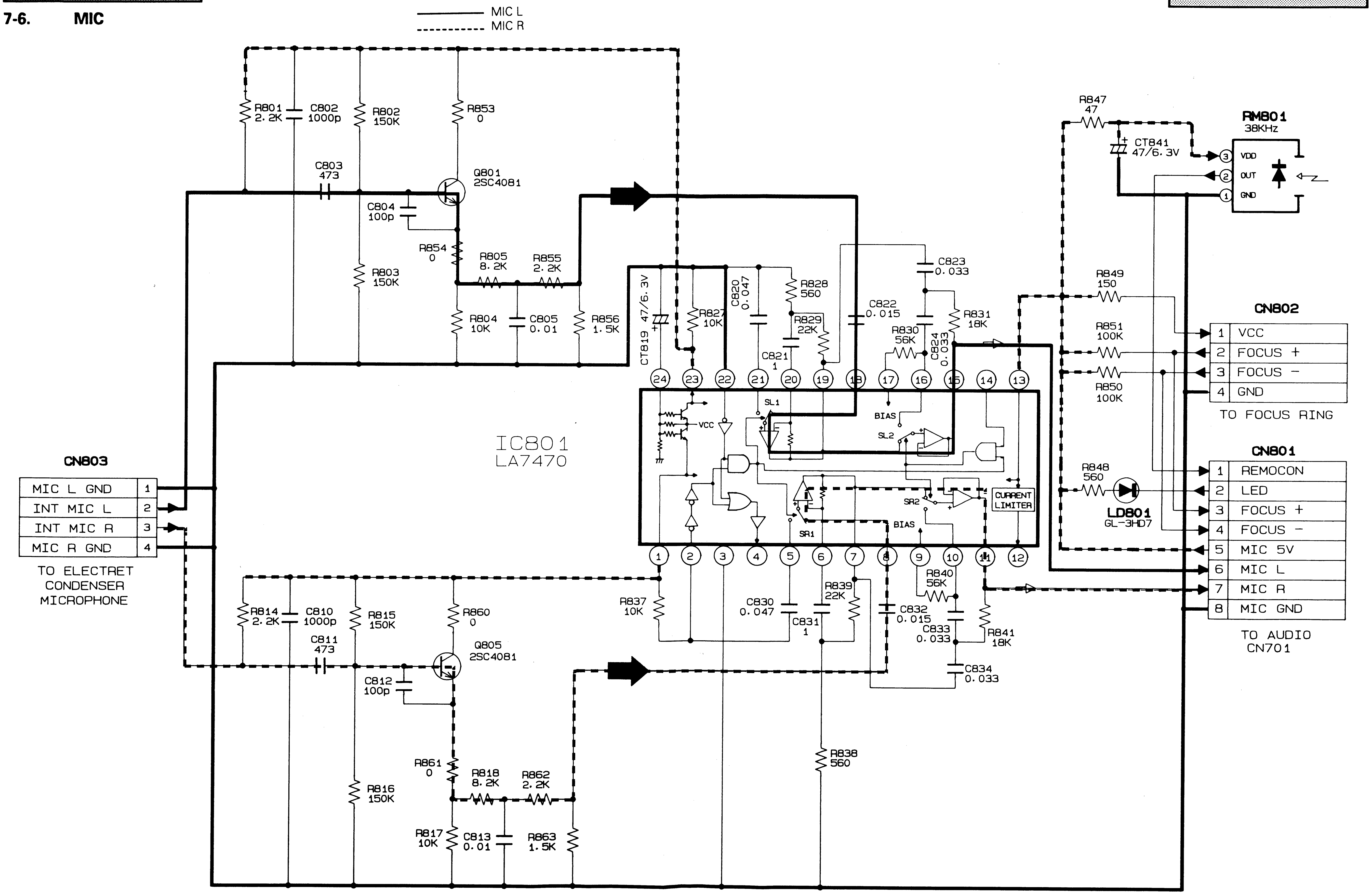

PB RF Y
PB RF C
REC RF Y
REC RF C
W101
GND
CH-1 PB
CH-1 REC
GND
GND
CH-2 REC
CH-2 PB
GND
GND
FLY ERASE
GND
CH-1 REC/PB
CH-2 REC/PB
FLY ERASE HEAD
TO DURM
IC101
HA118189MPER
TO VIDEO
P1 VA PB MODE
P2 REC LUMA
P3 REC AUDIO
P4 REC PILOT
P5 REC CHROMA
P6 ME/MP
P7 PB/REC
P8 HI-8
P9 HI-8
P10 PB LUMA
P11 DOP
P12 PB CHROMA
P13 PB RF
P14 HD SW
P15 FE ON
P16 VIDEO 5V
P17 GND
P18 REC LUMA
P19 REC CHROMA
5V1
Q101 UMT2
Q106 UMT2
Q107 UMD3
Q108 2SC4081
Q109 UMX2
Q110 UMX2
Q111 2SC4081
Q112 UMH6
Q114 UMX2
Q115 DTC144EU
Q116 UMT2
Q117 UMH6
Q119 2SA1037
Q120 DTC144EU
Q121 UMX2
Q122 UMH6
Q123 DTC144EU
Q124 UMX2
Q125 UMX2
Q126 2SC4081
Q127 UMZ1
Q128 DTC144EU
Q129 2SA1037
Q130 DTC144EU
①
②
③
④
⑤
⑥
⑦

7-5. AUDIO

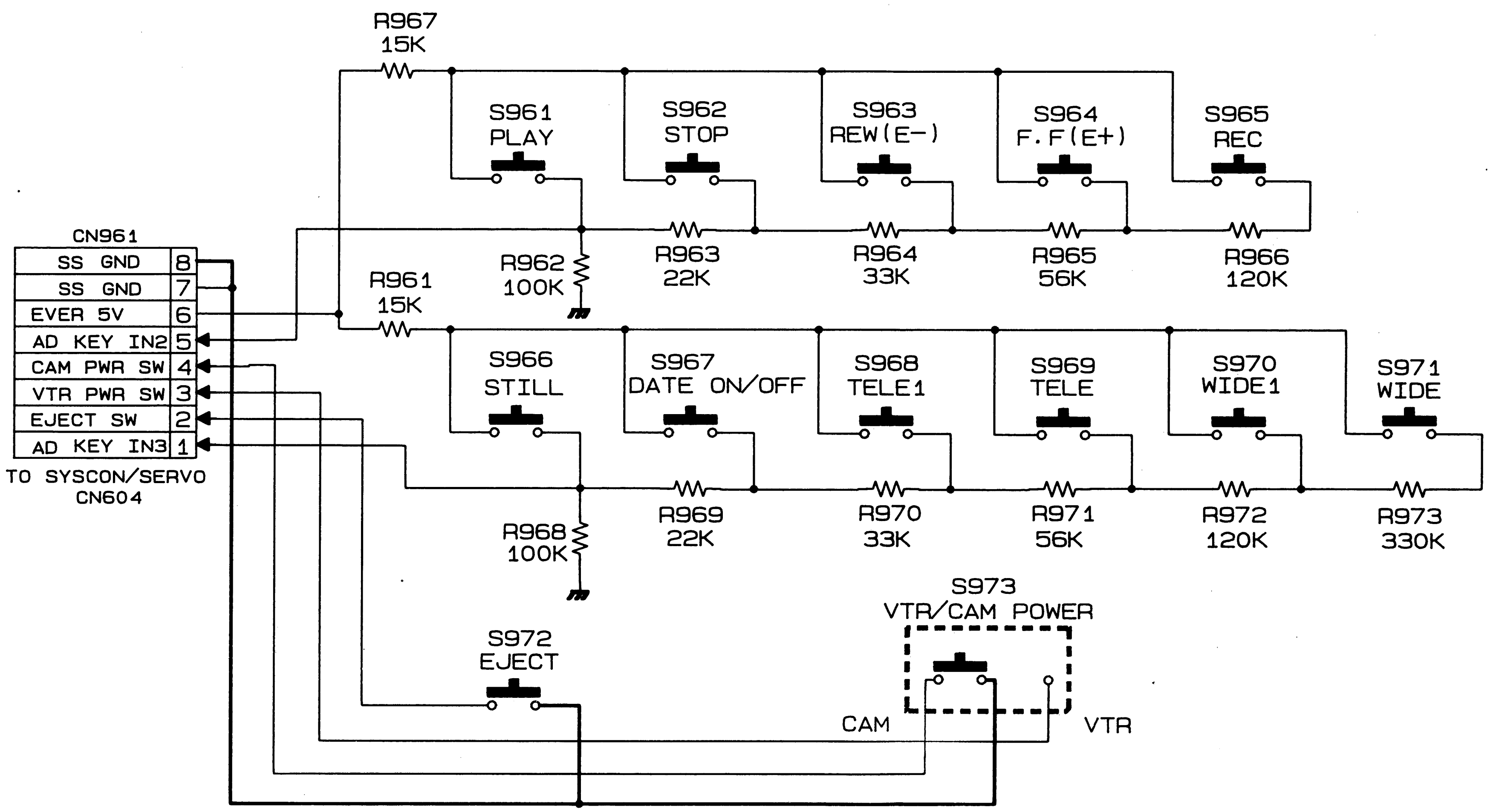

PB L SIGNAL
PB R SIGNAL
LINE L REC SIGNAL
LINE R REC SIGNAL
IC701
HA118276F
VR702 10KB CARRIER(R)
R713 47K
VR704 50KB DEV(R)
R746 2.4K
R747 12KΩ
CT747 47/6.3V
C746 1
R744 150K
CT745 1/20V
R714 20K
C744 1000p
C743 1000p
C741 2200p
C742 1
CT739 33/6.3V
C740 1500p
CT738 2.2/16V
CT737 4.7/10V
C736 1000p
C735 1000p
C734 1
C733 0.01
LPF OUT(R)
C732 470p
R711 1.5K
R712 1.8K
R710 2.2K
CT730 10/6.3V
C729 1
R708 1K
C731 3300p
C728 1
C727 1
C726 0.015
CT767 10/6.3V
CT725 10/6.3V
CT724 4.7/10V
C723 0.015
C722 1
C721 1
C720 1
R706 1K
CT718 2.2/16V
C719 3300p
R707 2.2K
R705 1.5K
R706 1.8K
C717 470p
C716 0.01
C715 1
LPF OUT(L)
C748 0.022
CT749 2.2/16V
R715 47K
TP702 CARRIER(R)
C750 22p
C751 0.01
CT752 0.47/35V
C753 220p
R745 33K
R716 18K
R717 100K
C754 0.01
R718 10K
C755 220p
R750 150K
C756 0.01
REC AFM
CT757 0.47/35V
C758 0.01
C759 224
TP701 CARRIER(L)
R701 150K
R702 47K
C703 22p
CT704 1/20V
R703 18K
C701 1
CT702 1/20V
C705 1000p
C706 1000p
C707 1
C708 2200p
CT710 33/6.3V
C709 1500p
CT711 2.2/16V
CT712 4.7/10V
C713 1000p
C714 1000p
VR701 20KB CARRIER(L)
VR703 50KB DEV(L)
R704 56K
fo V/I
SUB GND
PHASE COMP
HOLD (1)
LIM
MONO DET
VCO
AUDLIM V/I
(1.7MHz) LPF
SW30 PB
MUTE IN
DATA IN
CLOCK IN
FSC IN
SIRIAL INTERFACE
RECPLL DIVIDER
P.D
SW30 PB
EMP
EMPH (2)
VCA
WT
DET
(18KHz) LPF
VCC STAB
2.1V REF
Vref
LINE IN
MIC
HP.VCC
VCC AUDIO
2.8V REG
L-R
L+R
1/2
VR
ACC DET
FADE
SIL DET
(1.5MHz) LPF
D.O MUTE
COMP PHASE
HOLD
REC
IC702
BU4053BF
R735 2.2K
Q704 DTA144EU
Q705 2SC4081
Q703 DTC144EU
Q706 2SC4081
L701 10u
R734 15K
R733 47K
CE766 22/6.3V
CE765 22/6.3V
R731 47K
R732 15K
R740 68
R742 68
CN701
1 REMOCON
2 LED
3 FOCUS +
4 FOCUS −
5 MIC 5V
6 MIC L
7 MIC R
8 GND
TO MIC CN801
CN703
1 AUDIO 5V
2 FOCUS +
3 AUDIO MUTE
4 AUDIO I/O L
5 AUDIO I/O R
6 IN/OUT
7 JACK MONO
8 SSB CLOCK
9 PB RF
10 REC AFM
11 SSB DATA
12 FOCUS −
13 RF SWP
14 GND
15 FSC
16 GND
17 LED
18 EARPHONE L
19 REMOCON
20 EARPHONE R
TO SERVO/SYSCON CN204
1.5M IN
1.7M IN
C763 6800p
R727 270
R725 1K
FL701 BPF1.5M
R728 680
C764 0.01
R729 0
FL702 BPF1.7M
R726 1K
R730 1K
Q702 2SC4081
Q701 2SC4081
L702 8.2uH
R721 680
R719 18K
C760 0.01
C762 0.01
R724 680
R722 390
R720 12K
①
②
③
④
GND
VCC

	NTSC	PAL
R750	NOT BE	BE

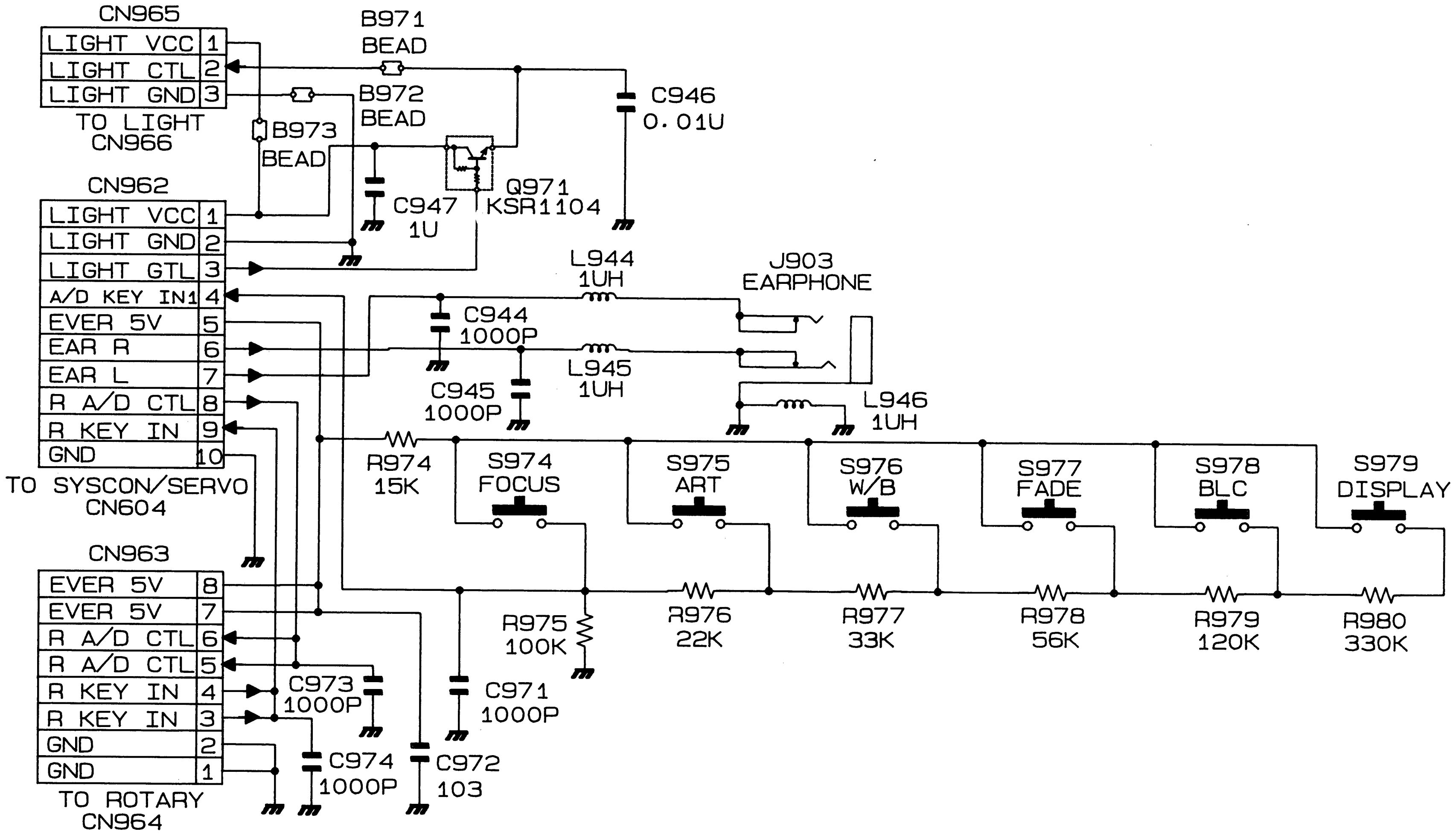
7-6. MIC


MIC L
MIC R
R801 2.2K
C802 1000p
R802 150K
R853 0
C803 473
Q801 2SC4081
C804 100p
R854 0
R805 8.2K
R855 2.2K
R803 150K
R804 10K
C805 0.01
R856 1.5K
CT819 47/6.3V
R827 10K
C820 0.047
R828 560
R829 22K
C821 1
C822 0.015
C823 0.033
R830 56K
C824 0.033
R831 18K
BIAS
SL1
SL2
VCC
SR2
SR1
CURRENT LIMITER
IC801
LA7470
R847 47
CT841 47/6.3V
RM801
38KHz
VDD
OUT
GND
R849 150
R851 100K
R850 100K
CN802
1 VCC
2 FOCUS +
3 FOCUS −
4 GND
TO FOCUS RING
R848 560
LD801
GL-3HD7
CN801
1 REMOCON
2 LED
3 FOCUS +
4 FOCUS −
5 MIC 5V
6 MIC L
7 MIC R
8 MIC GND
TO AUDIO CN701
CN803
MIC L GND 1
INT MIC L 2
INT MIC R 3
MIC R GND 4
TO ELECTRET CONDENSER MICROPHONE
R814 2.2K
C810 1000p
R815 150K
C811 473
R860 0
Q805 2SC4081
C812 100p
R837 10K
C830 0.047
C831 1
R839 22K
C832 0.015
R840 56K
C833 0.033
R841 18K
C834 0.033
R838 560
R861 0
R818 8.2K
R862 2.2K
R816 150K
R817 10K
C813 0.01
R863 1.5K

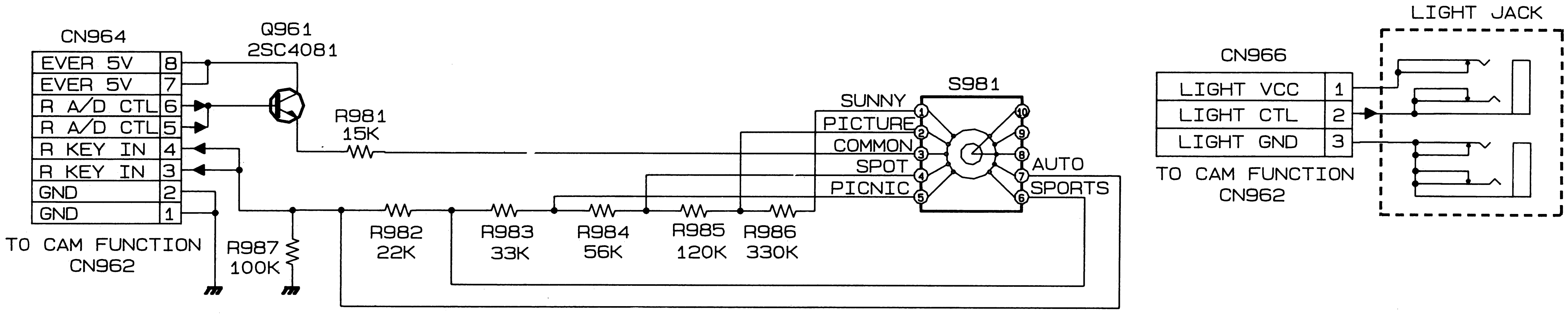
7-7. FUNCTION VCR


R967
15K
S961
PLAY
S962
STOP
S963
REW(E−)
S964
F.F(E+)
S965
REC
CN961
SS GND 8
SS GND 7
EVER 5V 6
AD KEY IN2 5
CAM PWR SW 4
VTR PWR SW 3
EJECT SW 2
AD KEY IN3 1
TO SYSCON/SERVO
CN604
R962
100K
R963
22K
R964
33K
R965
56K
R966
120K
R961
15K
S966
STILL
S967
DATE ON/OFF
S968
TELE1
S969
TELE
S970
WIDE1
S971
WIDE
R968
100K
R969
22K
R970
33K
R971
56K
R972
120K
R973
330K
S973
VTR/CAM POWER
S972
EJECT
CAM
VTR

7-8. FUNCTION CAMERA

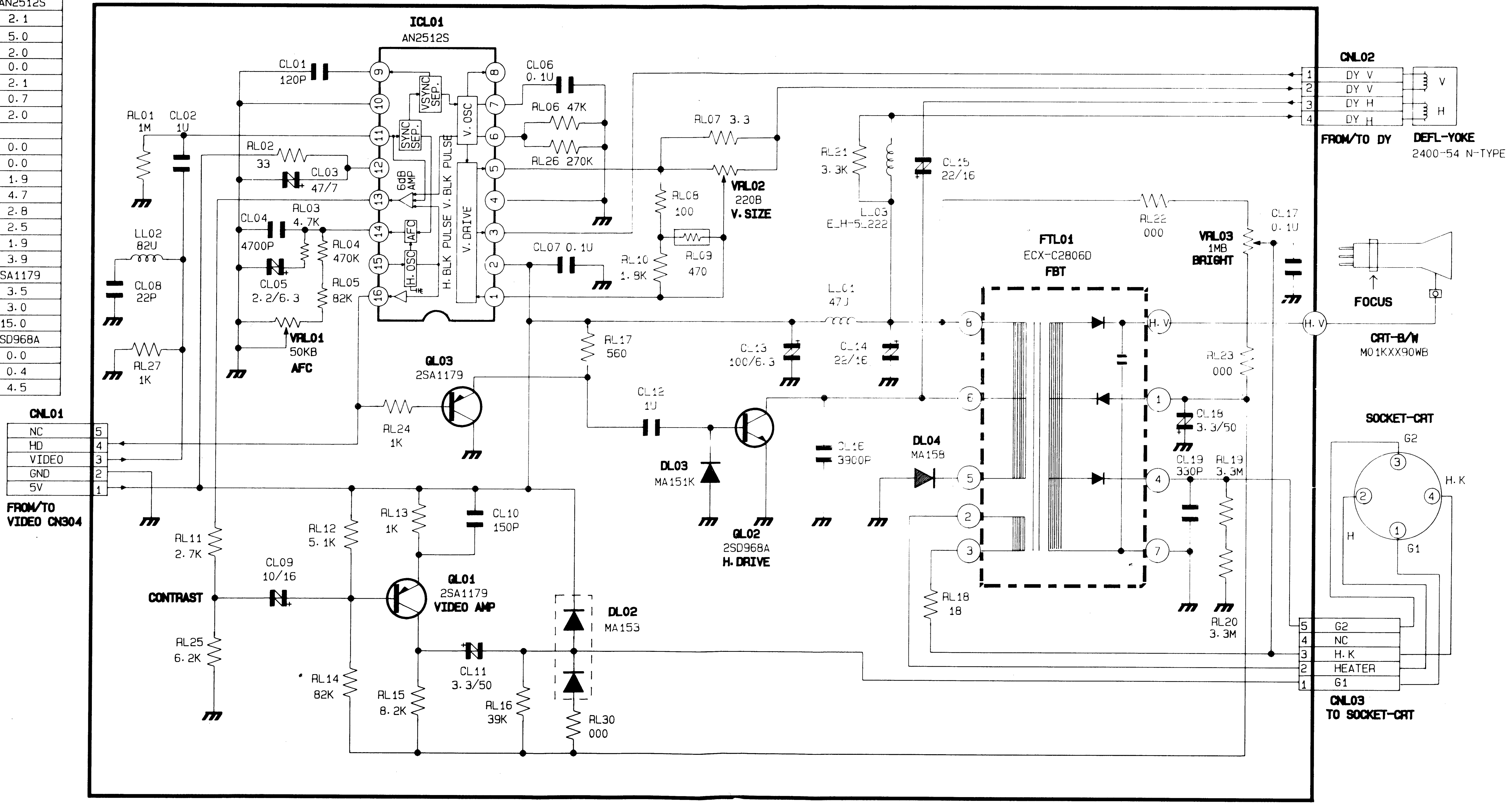

CN965
LIGHT VCC 1
LIGHT CTL 2
LIGHT GND 3
TO LIGHT
CN966
B971
BEAD
B972
BEAD
B973
BEAD
C946
0.01U
C947
1U
Q971
KSR1104
CN962
LIGHT VCC 1
LIGHT GND 2
LIGHT GTL 3
A/D KEY IN1 4
EVER 5V 5
EAR R 6
EAR L 7
R A/D CTL 8
R KEY IN 9
GND 10
TO SYSCON/SERVO
CN604
L944
1UH
J903
EARPHONE
C944
1000P
L945
1UH
C945
1000P
L946
1UH
R974
15K
S974
FOCUS
S975
ART
S976
W/B
S977
FADE
S978
BLC
S979
DISPLAY
R975
100K
R976
22K
R977
33K
R978
56K
R979
120K
R980
330K
CN963
EVER 5V 8
EVER 5V 7
R A/D CTL 6
R A/D CTL 5
R KEY IN 4
R KEY IN 3
GND 2
GND 1
TO ROTARY
CN964
C973
1000P
C971
1000P
C974
1000P
C972
103

7-9. FUNCTION ROTARY


CN964
EVER 5V 8
EVER 5V 7
R A/D CTL 6
R A/D CTL 5
R KEY IN 4
R KEY IN 3
GND 2
GND 1
TO CAM FUNCTION
CN962
Q961
2SC4081
R981
15K
R987
100K
R982
22K
R983
33K
R984
56K
R985
120K
R986
330K
S981
SUNNY
PICTURE
COMMON
SPOT
PICNIC
AUTO
SPORTS
1
2
3
4
5
6
7
8
9
10
CN966
LIGHT VCC 1
LIGHT CTL 2
LIGHT GND 3
TO CAM FUNCTION
CN962
LIGHT JACK

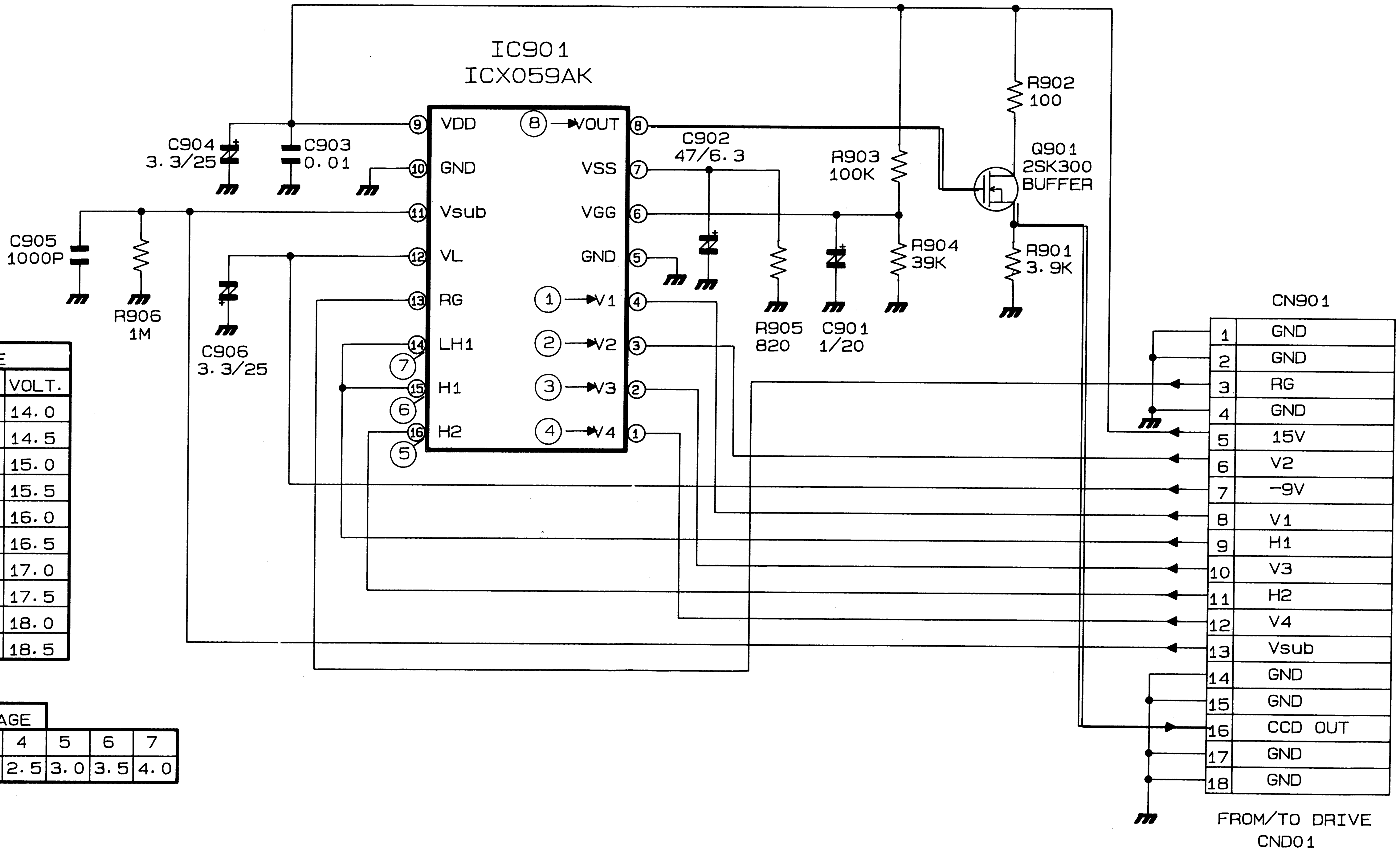
7-10. E.V.F

PIN NO	VOLT. (DC)
ICL01	AN2512S
1	2.1
2	5.0
3	2.0
4	0.0
5	2.1
6	0.7
7	2.0
8	
9	0.0
10	0.0
11	1.9
12	4.7
13	2.8
14	2.5
15	1.9
16	3.9
QL01	2SA1179
E	3.5
B	3.0
C	-15.0
QL02	2SD968A
E	0.0
B	0.4
C	4.5


ICL01
AN2512S
VSYNC SEP.
SYNC SEP.
V. OSC
V. BLK PULSE
H. BLK PULSE
V. DRIVE
6dB AMP
AFC
H. OSC
CL01 120P
CL06 0.1U
RL06 47K
RL26 270K
RL01 1M
CL02 1U
RL02 33
CL03 47/7
CL04 4700P
RL03 4.7K
RL04 470K
CL05 2.2/6.3
RL05 82K
VRL01 50KB AFC
LL02 82U
CL08 22P
RL27 1K
CL07 0.1U
RL07 3.3
VRL02 220B V. SIZE
RL08 100
RL09 470
RL10 1.8K
RL21 3.3K
LL03 ELH-5L222
CL15 22/16
LL01 47U
CL13 100/6.3
CL14 22/16
RL17 560
CL12 1U
QL03 2SA1179
RL24 1K
DL03 MA151K
QL02 2SD968A H. DRIVE
CL16 3900P
DL04 MA158
FTL01 ECX-C2806D FBT
H. V
RL22 000
VRL03 1MB BRIGHT
CL17 0.1U
RL23 000
CL18 3.3/50
CL19 330P
RL19 3.3M
RL18 18
RL20 3.3M
CNL01
NC 5
HD 4
VIDEO 3
GND 2
5V 1
FROM/TO VIDEO CN304
RL11 2.7K
CONTRAST
RL25 6.2K
CL09 10/16
RL12 5.1K
RL13 1K
CL10 150P
QL01 2SA1179 VIDEO AMP
RL14 82K
RL15 8.2K
CL11 3.3/50
RL16 39K
DL02 MA153
RL30 000
CNL02
1 DY V
2 DY V
3 DY H
4 DY H
V
H
FROM/TO DY
DEFL-YOKE
2400-54 N-TYPE
FOCUS
CRT-B/W
M01KXX90WB
SOCKET-CRT
G2
H. K
H
G1
5 G2
4 NC
3 H. K
2 HEATER
1 G1
CNL03
TO SOCKET-CRT

7-11. CCD

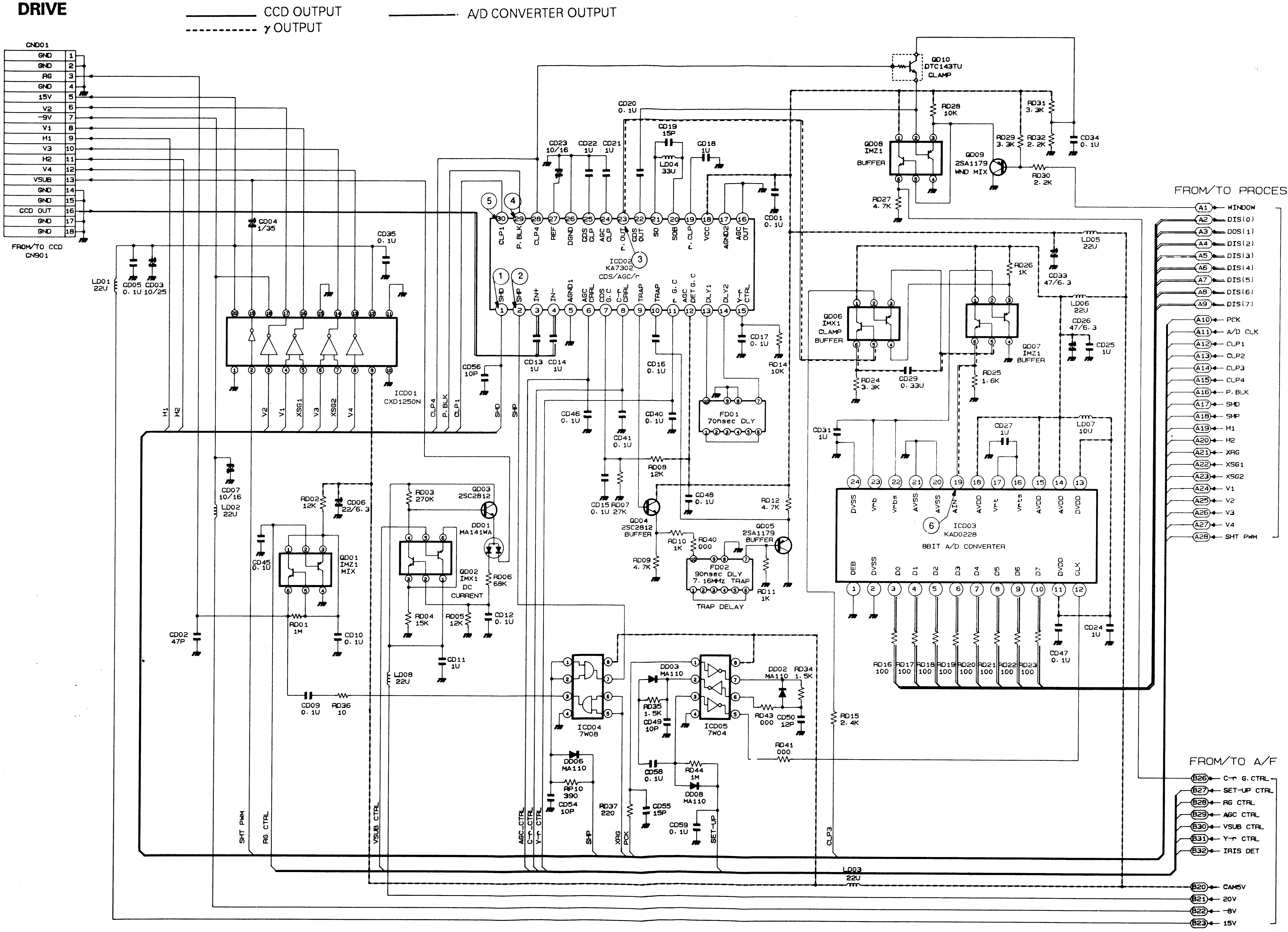
——— CCD OUTPUT


IC901
ICX059AK
VDD
GND
Vsub
VL
RG
LH1
H1
H2
VOUT
VSS
VGG
GND
V1
V2
V3
V4
C904
3.3/25
C903
0.01
C905
1000P
R906
1M
C906
3.3/25
C902
47/6.3
R903
100K
R904
39K
R905
820
C901
1/20
R902
100
Q901
2SK300
BUFFER
R901
3.9K
CN901
1 GND
2 GND
3 RG
4 GND
5 15V
6 V2
7 -9V
8 V1
9 H1
10 V3
11 H2
12 V4
13 Vsub
14 GND
15 GND
16 CCD OUT
17 GND
18 GND
FROM/TO DRIVE
CND01

VSUB VOLTAGE			
MARK	VOLT.	MARK	VOLT.
E	9.0	Q	14.0
f	9.5	R	14.5
G	10.0	S	15.0
h	10.5	T	15.5
J	11.0	u	16.0
k	11.5	V	16.5
L	12.0	W	17.0
m	12.5	X	17.5
N	13.0	Y	18.0
p	13.5	Z	18.5

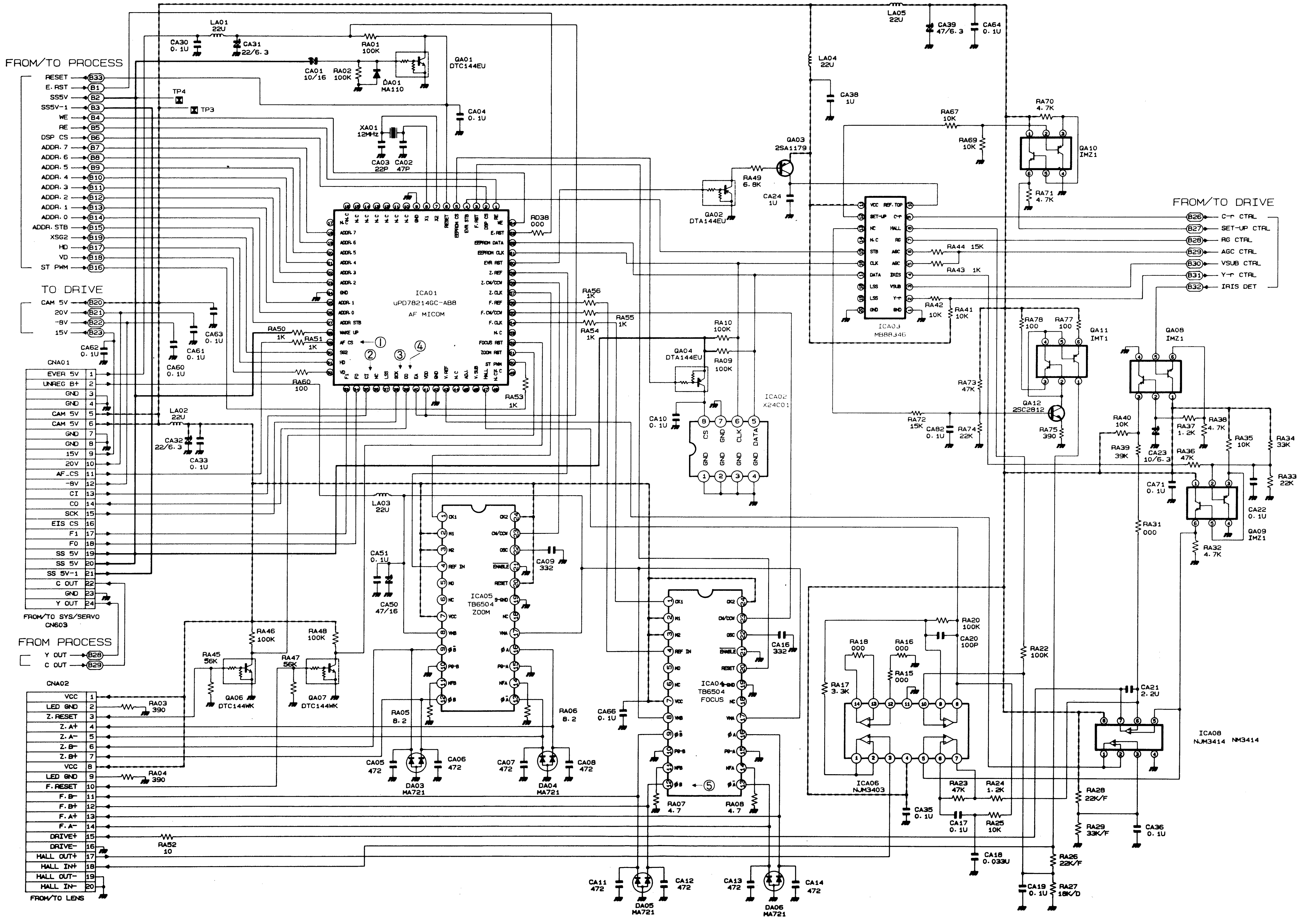
RESET GATE VOLTAGE							
MARK	1	2	3	4	5	6	7
VOLT.	1.0	1.5	2.0	2.5	3.0	3.5	4.0

7-12. DRIVE


———— CCD OUTPUT
- - - - - - γ OUTPUT
———— A/D CONVERTER OUTPUT

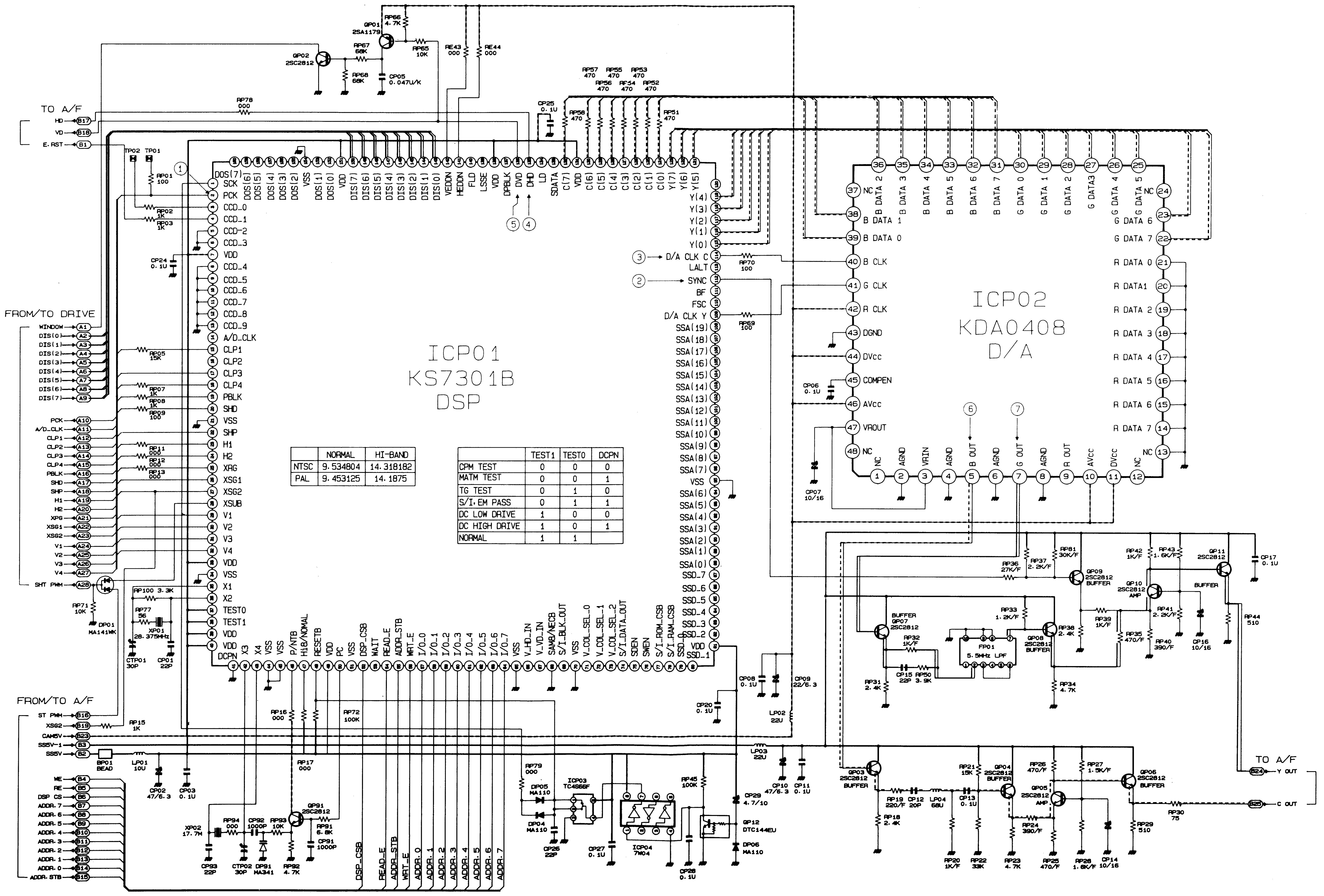
CND01
GND 1
GND 2
RG 3
GND 4
15V 5
V2 6
-9V 7
V1 8
H1 9
V3 10
H2 11
V4 12
VSUB 13
GND 14
GND 15
CCD OUT 16
GND 17
GND 18
FROM/TO CCD CN901
LD01 22U
CD05 0.1U
CD03 10/25
CD04 1/35
CD35 0.1U
ICD01 CXD1250N
H1
H2
V2
V1
XSG1
V3
XSG2
V4
CLP4
P.BLK
CLP1
SHD
SHP
CD56 10P
CD23 10/16
CD22 1U
CD21 1U
CD20 0.1U
CD19 15P
LD04 33U
CD18 1U
CD01 0.1U
ICD02 KA7302 CDS/AGC/γ
CLP1
P.BLK
CLP4
REF
DGND
CDS CLP
AGC CLP
γ OUT
CDS OUT
SO
SOB
γ CLP
VCC
AGND2
AGC OUT
SHD
SHP
IN+
IN-
AGND1
AGC CTRL
CDS G.C
C-γ CTRL
TRAP
TRAP
γ G.C
AGC DET G.C
DLY1
DLY2
Y-γ CTRL
CD13 1U
CD14 1U
CD16 0.1U
CD17 0.1U
RD14 10K
FD01 70nsec DLY
CD46 0.1U
CD41 0.1U
CD40 0.1U
RD08 12K
CD15 0.1U
RD07 27K
CD48 0.1U
QD04 2SC2812 BUFFER
RD10 1K
RD40 000
RD09 4.7K
FD02 90nsec DLY 7.16MHz TRAP
TRAP DELAY
QD05 2SA1179 BUFFER
RD11 1K
RD12 4.7K
QD10 DTC143TU CLAMP
RD28 10K
RD31 3.3K
RD29 3.3K
RD32 2.2K
CD34 0.1U
QD08 IMZ1 BUFFER
QD09 2SA1179 WND MIX
RD30 2.2K
RD27 4.7K
LD05 22U
RD26 1K
CD33 47/6.3
QD06 IMX1 CLAMP BUFFER
QD07 IMZ1 BUFFER
LD06 22U
CD26 47/6.3
CD25 1U
RD24 3.3K
CD29 0.33U
RD25 1.6K
CD31 1U
CD27 1U
LD07 10U
ICD03 KAD0228 8BIT A/D CONVERTER
DVSS
Vrb
Vrbs
AVSS
AVSS
AIN
AVDD
Vrt
Vrts
AVDD
AVDD
DVDD
OEB
DVSS
D0
D1
D2
D3
D4
D5
D6
D7
DVDD
CLK
RD16 100
RD17 100
RD18 100
RD19 100
RD20 100
RD21 100
RD22 100
RD23 100
CD47 0.1U
CD24 1U
RD15 2.4K
CD07 10/16
LD02 22U
CD02 47P
CD45 0.1U
RD02 12K
CD06 22/6.3
QD01 IMZ1 MIX
RD01 1M
CD10 0.1U
CD09 0.1U
RD36 10
RD03 270K
QD03 2SC2812
DD01 MA141WA
QD02 IMX1 DC CURRENT
RD06 68K
RD04 15K
RD05 12K
CD12 0.1U
CD11 1U
LD08 22U
ICD04 7W08
DD03 MA110
RD35 1.5K
CD49 10P
ICD05 7W04
DD02 MA110
RD34 1.5K
RD43 000
CD50 12P
RD41 000
DD06 MA110
RP10 390
CD54 10P
RD37 220
CD55 15P
CD58 0.1U
RD44 1M
DD08 MA110
CD59 0.1U
SHT PWM
RG CTRL
VSUB CTRL
AGC CTRL
C-γ CTRL
Y-γ CTRL
SHP
XRG
PCK
SET-UP
CLP3
LD03 22U
FROM/TO PROCESS
A1 WINDOW
A2 DIS(0)
A3 DOS(1)
A4 DIS(2)
A5 DIS(3)
A6 DIS(4)
A7 DIS(5)
A8 DIS(6)
A9 DIS(7)
A10 PCK
A11 A/D CLK
A12 CLP1
A13 CLP2
A14 CLP3
A15 CLP4
A16 P.BLK
A17 SHD
A18 SHP
A19 H1
A20 H2
A21 XRG
A22 XSG1
A23 XSG2
A24 V1
A25 V2
A26 V3
A27 V4
A28 SHT PWM
FROM/TO A/F
B26 C-γ G.CTRL
B27 SET-UP CTRL
B28 RG CTRL
B29 AGC CTRL
B30 VSUB CTRL
B31 Y-γ CTRL
B32 IRIS DET
B20 CAM5V
B21 20V
B22 -8V
B23 15V

7-13. A/F


FROM/TO PROCESS
RESET B33
E. RST B1
SS5V B2
SS5V-1 B3
WE B4
RE B5
DSP CS B6
ADDR. 7 B7
ADDR. 6 B8
ADDR. 5 B9
ADDR. 4 B10
ADDR. 3 B11
ADDR. 2 B12
ADDR. 1 B13
ADDR. 0 B14
ADDR. STB B15
XSG2 B19
HD B17
VD B18
ST PWM B16
TO DRIVE
CAM 5V B20
20V B21
-8V B22
15V B23
CNA01
EVER 5V 1
UNREG B+ 2
GND 3
GND 4
CAM 5V 5
CAM 5V 6
GND 7
GND 8
15V 9
20V 10
AF_CS 11
-8V 12
CI 13
CO 14
SCK 15
EIS CS 16
F1 17
F0 18
SS 5V 19
SS 5V 20
SS 5V-1 21
C OUT 22
GND 23
Y OUT 24
FROM/TO SYS/SERVO CN603
FROM PROCESS
Y OUT B28
C OUT B29
CNA02
VCC 1
LED GND 2
Z. RESET 3
Z. A+ 4
Z. A- 5
Z. B- 6
Z. B+ 7
VCC 8
LED GND 9
F. RESET 10
F. B- 11
F. B+ 12
F. A+ 13
F. A- 14
DRIVE+ 15
DRIVE- 16
HALL OUT+ 17
HALL IN+ 18
HALL OUT- 19
HALL IN- 20
FROM/TO LENS
TP4
TP3
LA01 22U
CA30 0. 1U
CA31 22/6. 3
RA01 100K
CA01 10/16
RA02 100K
DA01 MA110
QA01 DTC144EU
CA04 0. 1U
XA01 12MHz
CA03 22P
CA02 47P
RD38 000
ICA01
uPD78214GC-AB8
AF MICOM
RA50 1K
RA51 1K
RA60 100
RA56 1K
RA55 1K
RA54 1K
RA53 1K
CA62 0. 1U
CA63 0. 1U
CA61 0. 1U
CA60 0. 1U
LA02 22U
CA32 22/6. 3
CA33 0. 1U
LA03 22U
CA51 0. 1U
CA50 47/16
ICA05 TB6504 ZOOM
CA09 332
RA46 100K
RA48 100K
RA45 56K
RA47 56K
QA06 DTC144WK
QA07 DTC144WK
RA03 390
RA04 390
RA52 10
RA05 8. 2
RA06 8. 2
CA05 472
CA06 472
CA07 472
CA08 472
DA03 MA721
DA04 MA721
CA66 0. 1U
ICA04 TB6504 FOCUS
CA16 332
RA07 4. 7
RA08 4. 7
CA11 472
CA12 472
CA13 472
CA14 472
DA05 MA721
DA06 MA721
QA02 DTA144EU
RA49 6. 8K
QA03 2SA1179
CA24 1U
LA04 22U
CA38 1U
LA05 22U
CA39 47/6. 3
CA64 0. 1U
RA10 100K
RA09 100K
QA04 DTA144EU
CA10 0. 1U
ICA02 X24C01
CS GND CLK DATA
GND GND GND GND
RA67 10K
RA69 10K
RA70 4. 7K
RA71 4. 7K
QA10 IMZ1
ICA03 MB88346
RA44 15K
RA43 1K
RA42 10K
RA41 10K
FROM/TO DRIVE
B26 C-T CTRL
B27 SET-UP CTRL
B28 RG CTRL
B29 AGC CTRL
B30 VSUB CTRL
B31 Y-T CTRL
B32 IRIS DET
RA78 100
RA77 100
QA11 IMT1
QA08 IMZ1
RA73 47K
QA12 2SC2812
RA72 15K
CA82 0. 1U
RA74 22K
RA75 390
RA40 10K
RA39 39K
CA23 10/6. 3
RA37 1. 2K
RA38 4. 7K
RA36 47K
RA35 10K
RA34 33K
RA33 22K
CA71 0. 1U
CA22 0. 1U
QA09 IMZ1
RA31 000
RA32 4. 7K
RA22 100K
RA20 100K
CA20 100P
RA18 000
RA16 000
RA15 000
RA17 3. 3K
ICA06 NJM3403
RA23 47K
RA24 1. 2K
CA17 0. 1U
RA25 10K
CA35 0. 1U
CA18 0. 033U
CA21 2. 2U
ICA08 NJM3414 NM3414
RA28 22K/F
RA29 33K/F
CA36 0. 1U
RA26 22K/F
RA27 16K/D
CA19 0. 1U
①
②
③
④
⑤

7-14. PROCESS

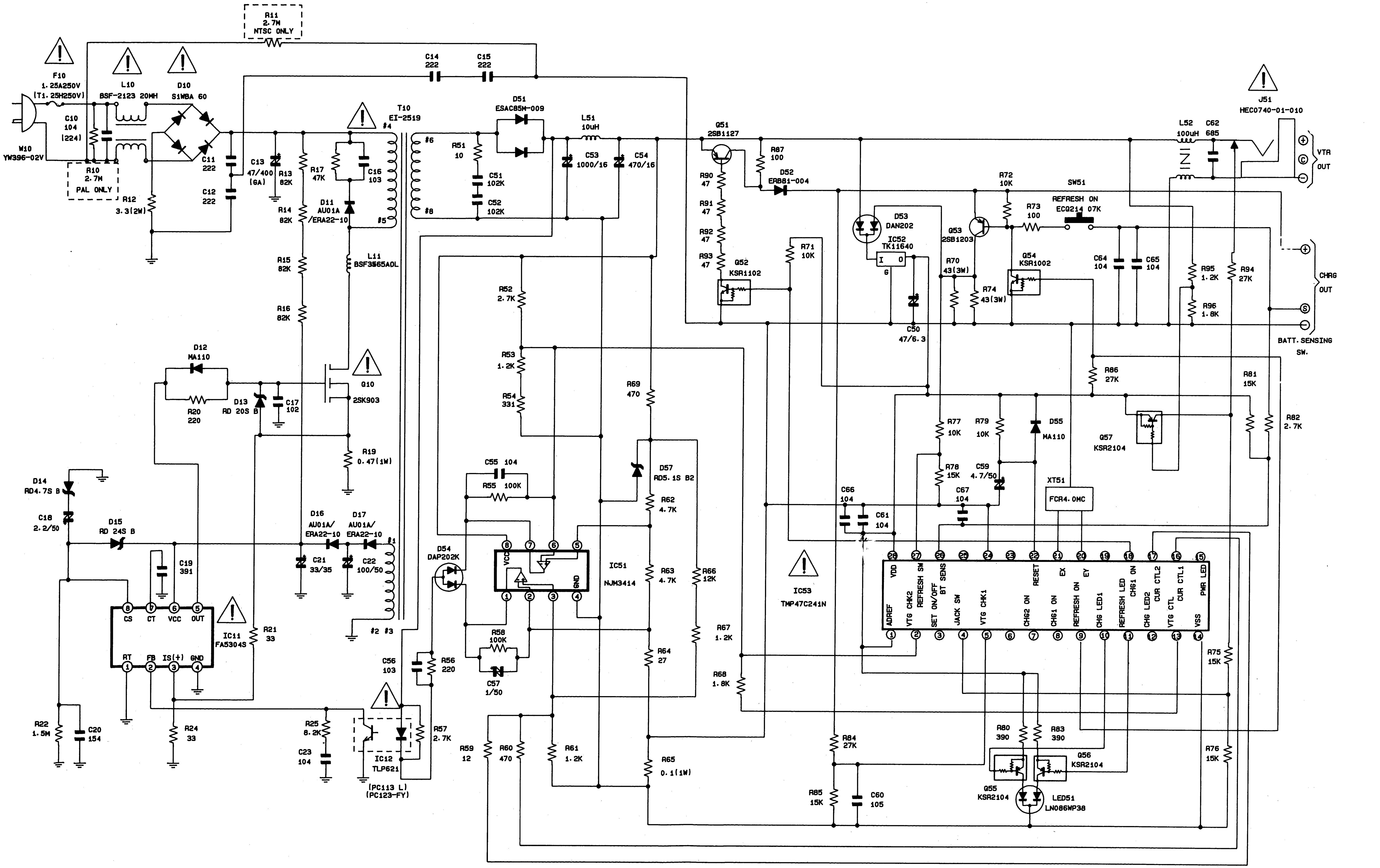
——— A/D CONVERTER OUTPUT
- - - - - C OUTPUT
——— Y OUTPUT
- - - - - DSP OUTPUT


ICP01
KS7301B
DSP
ICP02
KDA0408
D/A
TO A/F
HD B17
VD B18
E.RST B1
FROM/TO DRIVE
WINDOW A1
DIS(0) A2
DIS(1) A3
DIS(2) A4
DIS(3) A5
DIS(4) A6
DIS(5) A7
DIS(6) A8
DIS(7) A9
PCK A10
A/D_CLK A11
CLP1 A12
CLP2 A13
CLP3 A14
CLP4 A15
PBLK A16
SHD A17
SHP A18
H1 A19
H2 A20
XPG A21
XSG1 A22
XSG2 A23
V1 A24
V2 A25
V3 A26
V4 A27
SHT PWM A28
FROM/TO A/F
ST PWM B16
XSG2 B19
CAM5V B23
SS5V-1 B3
SS5V B2
ME B4
RE B5
DSP CS B6
ADDR.7 B7
ADDR.6 B8
ADDR.5 B9
ADDR.4 B10
ADDR.3 B11
ADDR.2 B12
ADDR.1 B13
ADDR.0 B14
ADDR.STB B15
TO A/F
B24 Y OUT
B25 C OUT
QP01 2SA1179
QP02 2SC2812
QP03 2SC2812 BUFFER
QP04 2SC2812 BUFFER
QP05 2SC2812 AMP
QP06 2SC2812 BUFFER
QP07 2SC2812 BUFFER
QP08 2SC2812 BUFFER
QP09 2SC2812 BUFFER
QP10 2SC2812 AMP
QP11 2SC2812 BUFFER
QP12 DTC144EU
QP91 2SC2812
ICP03 TC4S66F
ICP04 7W04
FP01 5.5MHz LPF
XP01 28.375MHz
XP02 17.7M
DP01 MA141WK
DP04 MA110
DP05 MA110
DP06 MA110
DP91 MA341
D/A CLK C
D/A CLK Y
SYNC
①
②
③
④
⑤
⑥
⑦

	NORMAL	HI-BAND
NTSC	9.534804	14.318182
PAL	9.453125	14.1875

	TEST1	TEST0	DCPN
CPM TEST	0	0	0
MATM TEST	0	0	1
TG TEST	0	1	0
S/I.EM PASS	0	1	1
DC LOW DRIVE	1	0	0
DC HIGH DRIVE	1	0	1
NORMAL	1	1	

7-15. ADAPTOR


R11
2.7M
NTSC ONLY
C14
222
C15
222
F10
1.25A250V
(T1.25H250V)
L10
BSF-2123 20MH
D10
S1WBA 60
C10
104
(224)
W10
YW396-02V
R10
2.7M
PAL ONLY
R12
3.3(2W)
C11
222
C12
222
C13
47/400
(6A)
R13
82K
R17
47K
C16
103
T10
EI-2519
#4
#6
#8
#5
#1
#2 #3
D11
AU01A
/ERA22-10
R14
82K
R15
82K
R16
82K
L11
BSF3565A0L
D51
ESAC85M-009
R51
10
C51
102K
C52
102K
L51
10uH
C53
1000/16
C54
470/16
Q51
2SB1127
R87
100
R90
47
R91
47
R92
47
R93
47
D52
ERB81-004
Q52
KSR1102
R71
10K
D53
DAN202
IC52
TK11640
I
O
G
C50
47/6.3
R70
43(3W)
R74
43(3W)
Q53
2SB1203
R72
10K
R73
100
SW51
REFRESH ON
ECQ214 07K
Q54
KSR1002
C64
104
C65
104
L52
100uH
C62
685
J51
HEC0740-01-010
VTR
OUT
R95
1.2K
R94
27K
R96
1.8K
CHRG
OUT
S
BATT. SENSING
SW.
R86
27K
R81
15K
R82
2.7K
Q57
KSR2104
D12
MA110
R20
220
D13
RD 20S B
C17
102
Q10
2SK903
R19
0.47(1W)
R52
2.7K
R53
1.2K
R54
331
R69
470
D57
RD5.1S B2
C55 104
R55 100K
R62
4.7K
R63
4.7K
R66
12K
R64
27
R67
1.2K
R68
1.8K
R65
0.1(1W)
D14
RD4.7S B
C18
2.2/50
D15
RD 24S B
C19
391
D16
AU01A/
ERA22-10
D17
AU01A/
ERA22-10
C21
33/35
C22
100/50
IC11
FA5304S
CS
CT
VCC
OUT
RT
FB
IS(+)
GND
R21
33
R22
1.5M
C20
154
R24
33
R25
8.2K
C23
104
IC12
TLP621
(PC113 L)
(PC123-FY)
D54
DAP202K
C56
103
R56
220
R57
2.7K
IC51
NJM3414
VCC
GND
R58
100K
C57
1/50
R59
12
R60
470
R61
1.2K
IC53
TMP47C241N
R77
10K
R79
10K
D55
MA110
R78
15K
C59
4.7/50
C67
104
C66
104
C61
104
XT51
FCR4.0MC
VDD
REFRESH SW
BT SENS
SET ON/OFF
RESET
EX
EY
REFRESH ON
CH61 ON
CUR CTL2
CUR CTL1
PWR LED
ADREF
VTG CHK2
JACK SW
VTG CHK1
CHG2 ON
CH61 ON
REFRESH ON
CHG LED1
REFRESH LED
CHG LED2
VTG CTL
VSS
R84
27K
R85
15K
C60
105
R80
390
R83
390
Q55
KSR2104
Q56
KSR2104
LED51
LN086WP38
R75
15K
R76
15K